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ALBERTA

NEW TOWN OF FORT McMURRAY GENERAL PLAN

January, 1972

PROVINCIAL PLANNING BRANCH
DEPARTMENT OF MUNICIPAL AFFAIRS

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NEW TOWN OF FORT McMURRAY

BOARD OF ADMINISTRATORS

CHAIRMAN: Chuck Knight

BOARD MEMBERS:
Walter Diener
Dave McNeilly
Ron Morgan
Dr. H. Nicholson
Armond Parent
Claire Peden

TOWN MANAGER: Norman Crawford

MUNICIPAL SECRETARY: Gerald E. Bussieres

DEPARTMENT OF MUNICIPAL AFFAIRS

Provincial Planning Director
8th Floor - 9912-107 Street
Edmonton 14, Alberta 429-4821

LETTER OF TRANSMITTAL

Chairman of the Board of Administrators
New Town of Fort McMurray
Fort McMurray, Alberta

Dear Sir:

It is a sincere pleasure indeed to submit to your Board of Administrators, the General Plan proposals for the New Town of Fort McMurray. We have investigated the various components requiring policy decisions, outlined the proposed contents and procedures for preparing the plan, reviewed and evaluated the information and studies presently available and required, and contacted the various agencies whose work or policies are relevant to the plan.

In our estimation Fort McMurray is a safe, attractive and prosperous community in which to live in. It is our hope this document will maintain these qualities together with offering assistance to the Board of Administrators in providing long range guidance for the orderly and economic development of the town.

Respectfully submitted,

Noel Dant.

Noel Dant
Provincial Planning Director

April 1972

ACKNOWLEDGEMENTS

Without the services received from many individuals and public agencies the General Plan of Fort McMurray would not have reached the present desirable form.

For their close co-operation, we wish to express our gratitude to the following people:

Chairman Chuck Knight and the remaining members of the Board of Administrators; Mr. Gerald Bussieres, Municipal Secretary; Mr. Norm Crawford, Town Manager; Mr. M. Christensen, Public Works Superintendent; Mr. W. H. Bogdan, Cartographer, Surveys Branch, Department of Highways and Transport; Mr. Len Gurel, Municipal Inspector, Department of Municipal Affairs; Stanley Associates Engineering Ltd.; Mr. L. M. L. Rokosh, Alberta Bureau of Statistics; Mr. F. J. Belcourt, Alberta Government Telephones; Mr. Len Olson and Mr. Gordon Riddell, Provincial Planning Branch, for cartographic representation; Miss M. Minter, Mrs. R. Danyluk, Miss J. Marusak, Miss K. Fowle, and Mrs. D. Harrison of the Provincial Planning Branch for typing assistance and to all others who aided us in our work.

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INTRODUCTION

REQUIREMENTS OF THE GENERAL PLAN

Sections 94 to 99 inclusive of The Act indicate the basic interpretation of a General Plan. More specifically, these sections also outline the content and method of adoption which, for the guidance of the council,[1] is included in the following pages:

> "94. (1) A council may resolve to prepare a general plan describing the manner in which the future development or re-development of the municipality may best be organized and carried out, having regard to considerations or orderliness, economy and convenience.
>
> (2) A general plan to be prepared may include such areas of land lying within the boundaries of more than one municipality as the Board of Administrators of the municipalities concerned consider necessary to include, and agree to by resolution, having regard to the future orderly and economical growth and development of the area of all the land so included.
>
> 95. A General Plan
>
> (a) shall be prepared under the direction of qualified planning officers or qualified planning consultants, who shall be appointed by the council and be responsible to it, or if the municipality is (situated in a regional planning area) (a member of a regional planning commission) it may be prepared by the regional planning commission, who shall be responsible to the council,

---

[1] In the case of a New Town, the term "Board of Administrators" is substituted for the term "Council" which is used in The Act. Substitution is based on section 2, subsection (e), part (iii) of the same Act, which equates the terms "Council" and "Board of Administrators".

(b) shall be prepared on the basis of surveys and studies of land use, population growth, the economic base of the municipality, its transportation and communication needs, public services, social services and such other factors as are relevant to the preparation of a general plan,

(c) shall include
   - (i) a map showing the division of all or part of the land that is to be included in the general plan into areas of permitted land use classes that the council considers necessary for the purposes of the general plan,
   - (ii) proposals as to the content of a development control by-law or a zoning by-law,
   - (iii) proposals relating to the provision of public roadways, services, public buildings, schools, parks and recreation areas and the reservation of land for these and other public and community purposes,
   - (iv) a schedule setting out the sequence in which specified areas of land may be developed or re-developed and in which the public services and facilities referred to in subclause (iii) should be provided in specified areas, and
   - (v) proposals relating to the financing and programming of public development projects and capital works to be undertaken by the municipalities or other public authorities having jurisdiction within the area included in the general plan,

(d) shall include such other written statements, reports, charts and drawings as may be necessary to express and illustrate the proposals in the general plan.

96. (1) A council may adopt a general plan by by-law passed in accordance with sections 129 to 136.

(2) Where a general plan includes areas of land lying within the boundaries of more than one municipality, each council within whose municipal territory any of that land lies may also adopt the general plan by by-law passed in accordance with sections 129 to 136.

97. The council shall completely review the general plan once every five years after its adoption and may by by-law amend the plan.

98. When a General Plan is adopted, the council

(a) may, at any time thereafter, exercise or continue to exercise development control within any areas of land included in the general plan, in which case sections 100 to 113 apply, and

(b) shall immediately thereafter proceed with the enactment of a zoning by-law to include those areas of land within the general plan in respect of which development control is not exercised."

In matters regarding the planning and development of New Towns, the Board of Administrators must seek final approval for comprehensive planning proposals from the Provincial Planning Board. The following section of the New Towns Act regulate this responsibility.

"12. (1) As soon as possible after its appointment, a board of administrators shall submit to the Provincial Planning Board for its approval comprehensive plans and proposals for the planning and development of the new town.

(2) The proposals shall be in the nature and form of the proposals that a council of a town may make by means of a general plan under The Planning Act.

(3) To assist a board of administrators in the preparation of proposals for the planning and orderly development of a new town and to ensure that its planning and development will be consistent and co-ordinated with the planning of adjacent areas, the Provincial Planning Board may require the proposals be prepared on behalf of the board of administrators by

(a) a regional planning commission having jurisdiction in the area or,

(b) professional planning consultants engaged by the board of administrators, or

(c) the staff of the Provincial Planning Director.

(4) The proposals for the planning and orderly development of a new town may from time to time be added to, amended or rescinded by

(a) order of the Provincial Planning Board, or

(b) the board of administrators with the approval of the Provincial Planning Board.

18. A board of administrators is responsible

(a) to the Provincial Planning Board with regard to all matters relating to the planning and development of the new town, and

(b) to the Local Authorities Board with regard to all matters relating to the financing of the new town's development and operation,

and shall carry out any instructions with regard to these matters that either of those Boards issue from time to time."

PURPOSE OF THE GENERAL PLAN

The prime object of this General Plan is to examine the form of development within the New Town of Fort McMurray. It indicates, by means of the proposals, the manner in which the New Town should develop in the future. A further feature of the plan is the indication of methods whereby the proposals can be implemented.

The preparation of this plan has been divided into a two stage project. The two stages are: (1) Survey and Analysis, and (2) Proposals, Programming and Implementation. The initial stage is a compilation of all available data that is considered relevant in the New Town development, both past and present. The analysis is a critical evaluation of the presented survey. The second stage, the proposals, are evolved through the previous evaluation and by projections for the future, together with the suggestions of the Board of Administrators. The programming and implementation is perhaps the most important step in this General Plan. Programming is achieved in conjunction with the proposals. Implementation however, must be undertaken by the local people and their representatives, the Board of Administrators. The interaction between these two groups is essential. If the General Plan is accepted by the Board of Administrators the proposals can be incorporated into a by-law which will be given first reading. Two copies of the by-law shall be submitted to the Provincial Planning Director for his evaluation, especially with regards to The Planning Act. A public hearing will then be held where citizens of the community are given the opportunity to express their views. If amendments are necessary after the public hearing they are made and the by-law is given second and third reading by the Board of Administrators. The by-law then becomes effective. Two copies of the by-law are submitted to the Provincial Planning Board. With the adoption of the General Plan, the Board of Administrators proceeds with the enactment of the zoning by-law which will regulate the use and development of land in the manner prescribed in the General Plan.

The period that this plan is intended to cover is 10 years; 1970 to 1980. The proposals put forward by the plan should be regarded and used as a basis for policy. This General Plan should be reviewed at least every five years in order to take into consideration unpredictable influences and development. Amendments to the plan after such review should be made without necessarily disrupting the established basic policy.

PART I

RESEARCH: SURVEYS AND STUDIES

SECTION A

SETTING AND TOWNSITE

The New Town of Fort McMurray is located at the confluence of the Athabasca and Clearwater Rivers, some 240 miles northeast of Edmonton (Map 1). These rivers have eroded down several hundred feet below the general level of the surrounding plain, and along with their major tributaries, the Horse and Hangingstone, are the outstanding topographical features of the region. The hinterland is generally level to undulating, however stream dissected plains are not uncommon. Stratified sands and gravels (from a glaciofluvial origin) dominate soil formations in the regions.[1] Swamps and muskeg are noticeable. The climate is characterized by a transition from the Prairie to northern climatic regions. The normal winter temperatures are very low and the snowfall is moderately light but lasting due to lower evaporation. The normal summer is pleasantly warm with occasional thunderstorms and rainy periods.

Urban development has taken place on the flood plain of the Clearwater River, and has therefore been limited on several sides by the Athabasca and Clearwater Rivers (Map 2). The southerly and easterly boundaries of the flood plains are the steep slopes which rise some 200 feet to the level area known locally as the Escarpment.

Development spreads over a wide area of the valley, and in 1964 the town was still quite definitely three distinct communities; McMurray, the Prairie, and Waterways (Map 3). The main thoroughfare in the town is Franklin Avenue which runs through the centre of both McMurray and the Prairie. Franklin connects onto King Street East which forms the main connecting link with Waterways. In the northwest sector remains the original settlement of Fort McMurray which contains the old residential settlement and a spreading mixture of commercial buildings, banks, hotels, stores, and the town office.

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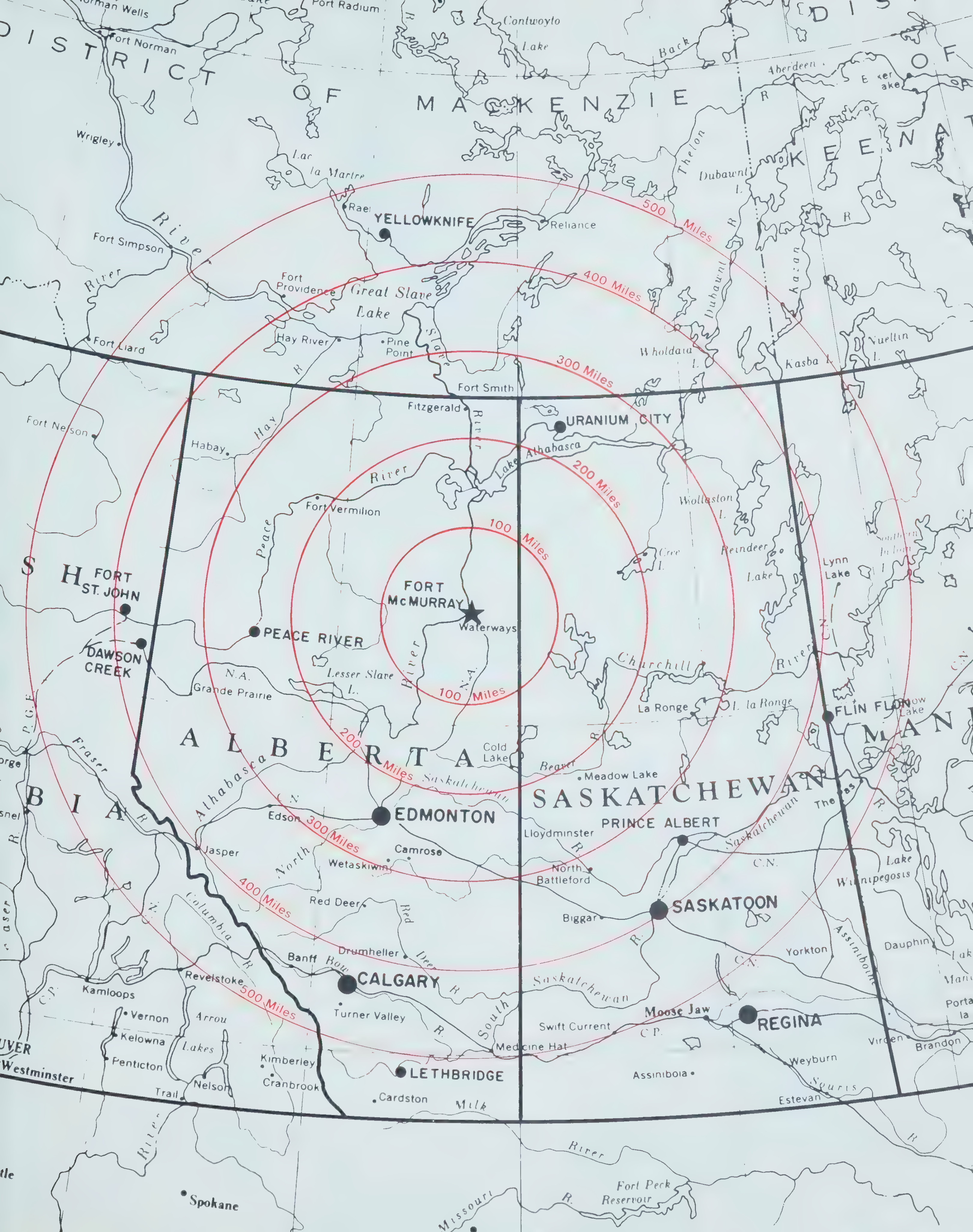
[1] For a detailed physical description of the immediate vicinity of Fort McMurray, see "Sub-Regional Plan" Provincial Planning Branch.



GEOGRAPHIC LOCATION

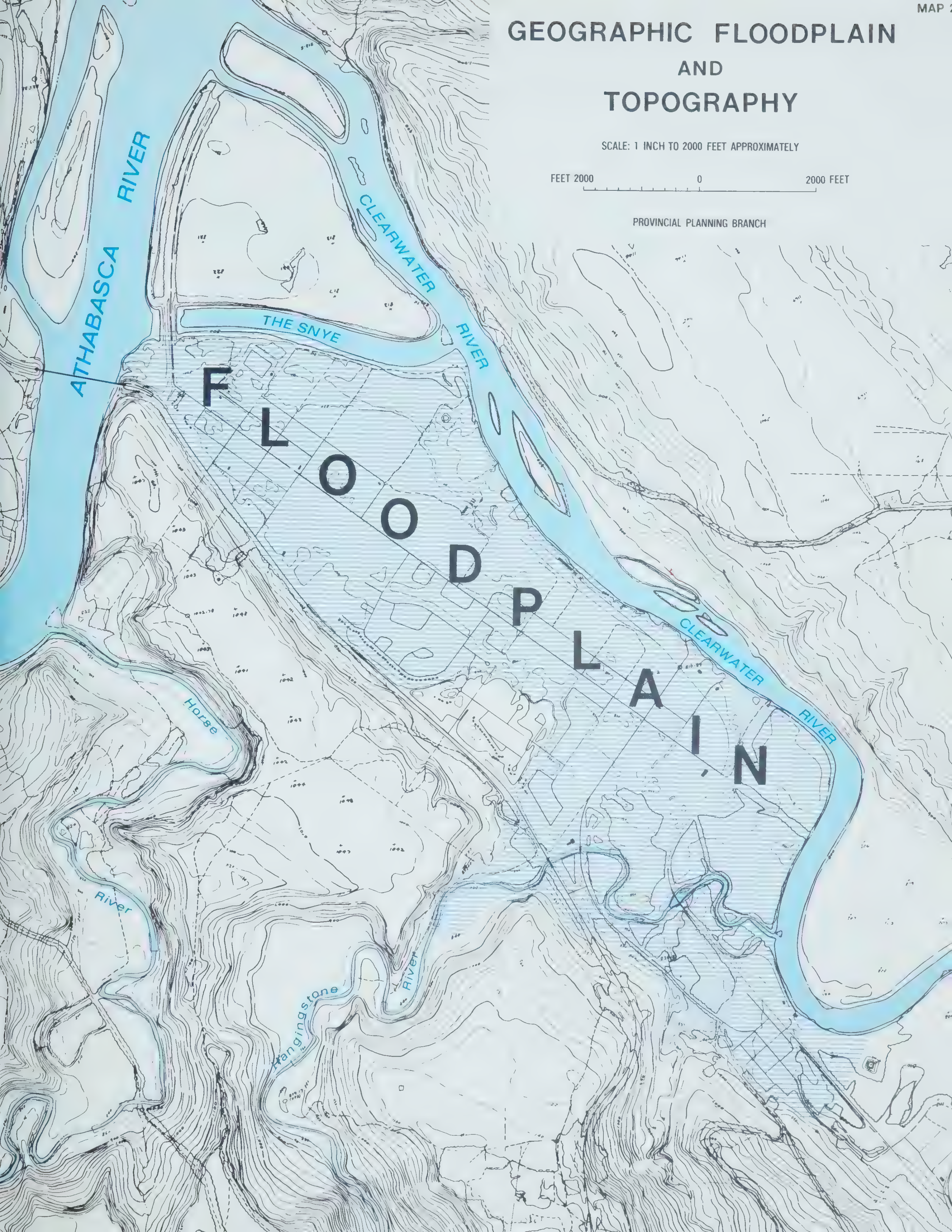
MAP 2

GEOGRAPHIC FLOODPLAIN AND TOPOGRAPHY

SCALE: 1 INCH TO 2000 FEET APPROXIMATELY

FEET 2000 0 2000 FEET

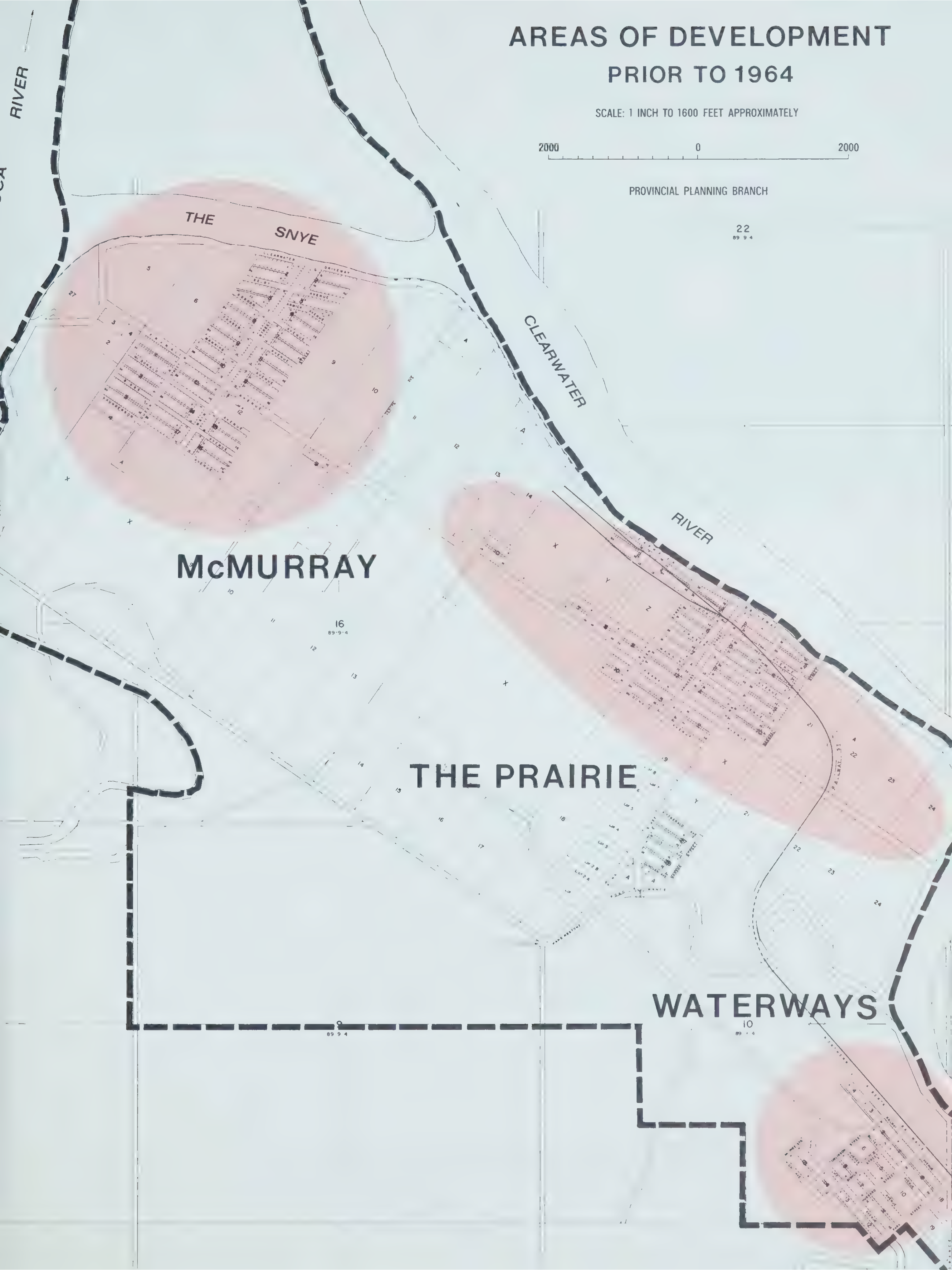
PROVINCIAL PLANNING BRANCH



This occurs all within four blocks of west Franklin Avenue. At the southeast end of the town area is the smaller settlement of Waterways, which contains the east road station, a few stores, abandoned structures, several light industry shops, and a considerable number of old residential structures built between 1915 and 1940.

The distance between McMurray and Waterways is two and one-half miles. Midway between there is what is locally known as the Prairie. Uses such as warehouses, barge facilities, transportation company camps, bulk oil stations, and a loose collection of houses, squatters and open brushland, are found here and represent a broken pattern of development. However, the Prairie is presently undergoing a land use transition, especially with the occurence of modern single family residential subdivisions south of Franklin Avenue.

The total area within the municipal boundaries amounts to 2,720.34 acres, while the total developed area amounts to 982.22 acres.



AREAS OF DEVELOPMENT PRIOR TO 1964

SCALE: 1 INCH TO 1600 FEET APPROXIMATELY

PROVINCIAL PLANNING BRANCH

ORIGIN

Fort McMurray has always been associated with natural resources and transportation. The first settlement, Fort of the Forks, was built across the Athabasca River from the present townsite by the Northwest Company in 1790. The post, under Hudson Bay control after 1821, was abandoned in 1840 and rebuilt in 1870 at the present townsite. The new fort was to be an important centre on the supply route to Lake Athabasca, Fort Chipewyan, and various Mackenzie River points.[2]

The history of Fort McMurray has been highlighted by a series of economic "booms" and subsequent recessions. The discovery of large deposits of bituminous sands caused a real estate "boom" prior to World War 1. These deposits, eventually developed a half a century later and the raison d'etre of the town today, will be discussed in detail later. The discovery of salt deposits caused another short-lived "boom". In 1929 the Alberta and Great Waterways Railroad (now the N.A.R.) connecting Edmonton with water transport to the north, reached its northern terminus at Waterways, some three miles from Fort McMurray. Waterways subsequently grew creating a number of planning and servicing problems for these two separate sites.

In 1964 the Town of Fort McMurray was granted New Town status, under the name of the New Town of Fort McMurray.

---

[2] This new supply route was via the Churchill River, Meythe Portage, and the Clearwater, rather than through Edmonton and Athabasca Landing.

FUNCTION

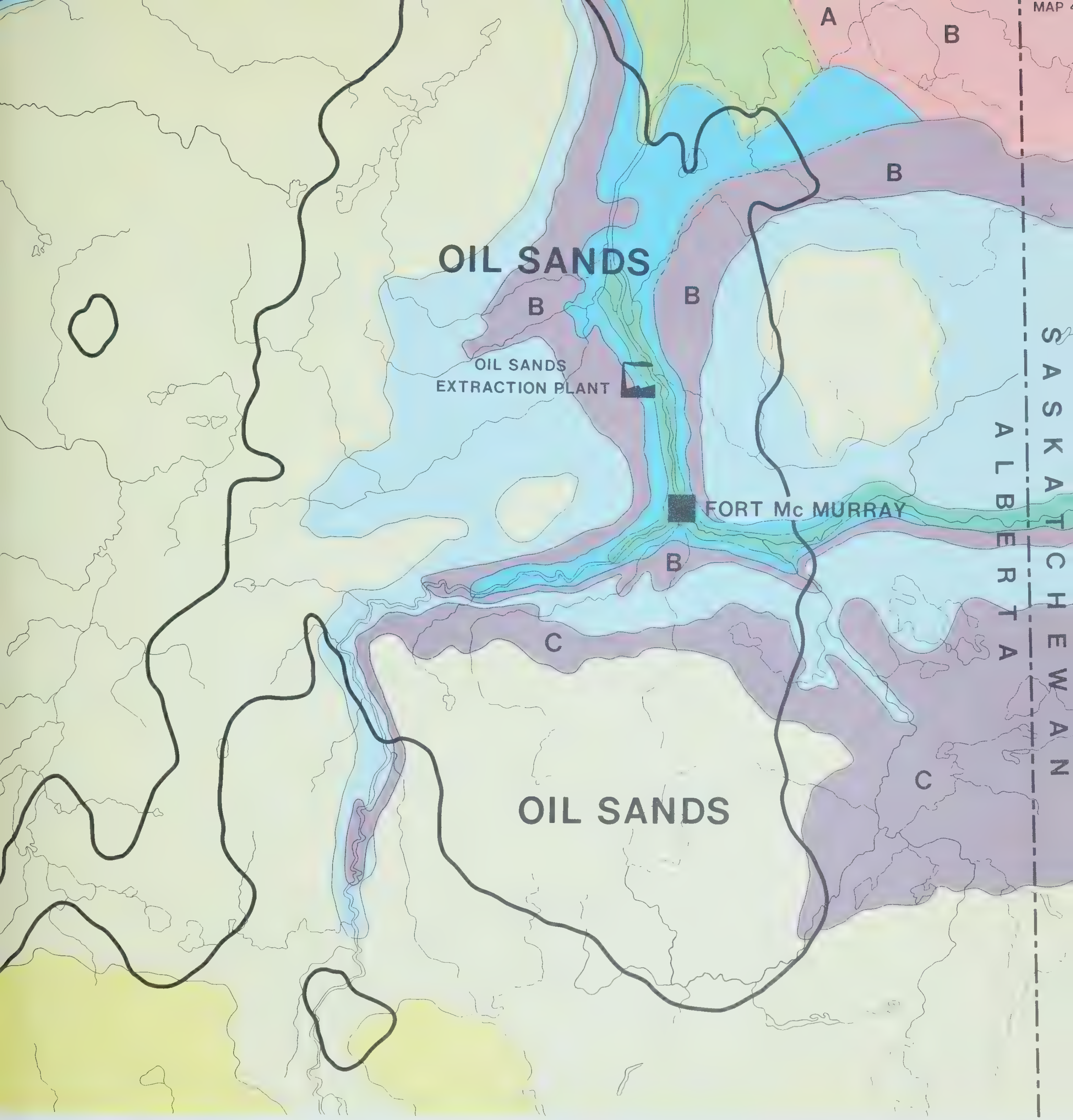
Fort McMurray performs a number of functions, the most important of which are associated with natural resources. According to the 1970 town census just over one-half of the enumerated labor force is employed in what has been termed "manufacturing and construction". For the most part this grouping is synonymous with two companies, Great Canadian Oil Sands and Swanson Lumber, and related construction, maintenance and supply firms. This figure is relatively high. In 1961 in urban Alberta only 20% of the labor force was employed in this sector, while the figure for urban Canada was 32%. Such a figure however is not uncommon for "resource towns".

The G.C.O.S. plant, located some twenty miles north of Fort McMurray, is the result of decades of experimentation in extracting oil from the Athabasca Tar Sands, (vast deposits of coarse grained "quartz sands" containing heavy black oil). The Athabasca deposit covers at least five million acres (Map 4). In some areas there is an overburden of up to 2,000 feet while elsewhere the oil sands outcrop at the surface. The Oil and Gas Conservation Board estimates a total reserve of 626 billion barrels; greater than Middle East reserves, and four times what has been found to date in the rest of Alberta. Small pilot plants have been operated intermittently by government and private concerns since 1928 at a number of sites. The G.C.O.S. operation is, however, the first large scale commercial venture.

The operation at Tar Island employs approximately 1,500 persons, about 1,300 of whom live in Fort McMurray.[3] G.C.O.S. has been instrumental in providing housing for its employees in Fort McMurray, has contributed a major share of the town's recreational needs, and has been responsible for a large portion of the public works programs and local improvements over the past several years.

---

[3] pers comp. G.C.O.S. personnel office Sept. 1971. There is an unexplainable difference between these figures and those obtained from the town census, but both emphasize the importance of the G.C.O.S. operation.



BEDROCK GEOLOGY

UPPER CRETACEOUS

- ▨ Sandstone, shale, coal, minor bentonite Wapiti Fm.
- ▨ Shale, minor sandstone La Biche Group

LOWER CRETACEOUS

- ▨ Sandstone, minor shale Pelican & Grand Rapids Fm.
- ▨ Shale
  - A Loon River Fm.
  - B Clearwater Fm.
  - C Joli Fou Fm.
- ▨ Sandstone, minor shale (includes 'Oil Sands') Mc Murray Fm.

DEVONIAN

- ▨ Limestone, shale, minor dolomite (Upper Devonian)
- ▨ Limestone, dolomite, gypsum, minor salt (Middle Devonian)

PRECAMBRIAN

- ▨ Igneous & metamorphic rocks
  - A Plutonic granites
  - B Granite gneiss

Prepared By Surveys Branch, Department of Highways and Transport, Edmonton, Alberta for Department of Municipal Affairs

Swanson Lumber is Fort McMurray's only other major primary or secondary industry. The sawmill-planer mill complex employs about 80 persons. Timber is trucked or barged to McMurray from the surrounding Athabasca Forest for processing and is then shipped to Edmonton and export markets in Eastern Canada and the U.S.A. by rail.

While "transportation" does not employ a large number of persons, Fort McMurray is nonetheless an important hub of northeastern Alberta. It is the N.A.R. railhead and has barge facilities along the Clearwater. River traffic has decreased somewhat over the past several years since the building of the Great Slave Lake Railway. Many northern communities now rely on that route for much of their freight shipment. McMurray is connected to Edmonton by a partially paved and partially gravelled highway. This is an important truck route and there is a daily bus service to and from Edmonton. Pacific Western Airlines connects McMurray with Edmonton and several northern centres. The airstrip also handles numerous light aircraft. In addition there is a seaplane base on the Snye.

Most of the labor force who do not work in the construction and manufacturing groups are employed in the tertiary sector. This includes retail, service, financial, medical, educational and administrative occupations etc.

Fort McMurray can be considered as a semi-service centre. There are 191 commercial establishments (1970). The market for these establishments however is virtually within the town. The surrounding area is sparsely inhabited; the only settlements being Anzac and Fort McKay with a combined population of approximately 650.

Fort McMurray, nonetheless, does have a regional influence. It is the major supply centre for mineral exploration in northeast Alberta. It is also a large administrative centre for most of I.D. 18. Canada Manpower and Indian Affairs have representation in the town, as well as the Provincial Departments of Public Health, Lands and Forests, Social Development and the Attorney General.

ADMINISTRATION AND PUBLIC SERVICES

Fort McMurray was granted "New Town status" in 1964. It is governed by a seven man Board of Administrators, all are locally elected officials. The town has a number of employees including a town manager, a secretary-treasurer, an inspection officer, a recreation superintendent, and a preventive social service director.

The Fire Department has a volunteer force of 24 men operating under the direction of a part-time fire chief and has two trucks.

The Town Public Works Department has fifteen full-time employees, including a works superintendent, foreman, and water treatment operators.

There are two R.C.M.P. units located in the town. Six constables and one sargent are responsible for local affairs, while the district detachment is made up of two constables and one corporal.

The town library is located in the Civic Centre Building and has about 10,000 volumes.

SECTION B

POPULATION

The population of Fort McMurray is now approaching 7,000. It was some 1,300 early in 1964. This rapid growth has been due to the much increased mineral development in the region during the mid 1960's. Firstly, there was a large influx of construction workers into the town, and these people were eventually replaced by more permanent plant employees and their dependents. During the same period a large number of retail and service workers, along with their families, also migrated to Fort McMurray. This large influx was mainly of younger people and resulted in the town having a high proportion of its population in the 20-40 age group.[4] This in turn results in a relatively high birth rate, a lower than normal death rate, and therefore a relatively high rate of natural increase.

	Birth Rate	Death Rate	Rate of Natural Increase
Ft. McMurray (1970)	34.7[5]	3.3	31.4
Alberta (1969)	24.4	6.6	17.8

[4] It would be meaningless to provide a 1966 population pyramid, and detailed age-sex data has not been collected since that time.

[5] This and subsequent figures assume that all of the births taking place in Fort McMurray were by residents, though a small number of persons from Anzac or Fort McKay or the surrounding area may be involved.

The population of Fort McMurray has not only grown rapidly, but also erratically. This is typical of a resource-oriented northern community. The town is now, however, beginning to show some signs of population stability. While migration, both in and out, is still considerable, and will no doubt remain so, natural increase is continually accounting for a large proportion of the population increase - an average of 63 per cent in 1968 and 1969 as opposed to 11 per cent in 1966 and 1967.

Population projections or forecasts are an important factor in the planning of future urban growth and are used in determining land use requirements. Planning should take place, then, for an expected increase or decrease in the population. A note of precaution is however necessary. The reliability of population projections is always questionable and uncertain. They must assume that no dramatic change in the economic and social conditions of the area will take place during the planning period. This is normally a risky assumption, and it is especially so in the case of a resource-oriented centre where migration is such an important factor, and the economy is directly related to world markets. For these reasons projections in this report are only for a ten year period, and even these must only be used as a guide. Although projections will be given for 1975 and 1980 a great effort to plan for a population rather than for a specific year should be made, eg. when the town reaches X population it will require more residential land . . . etc. and this figure may be reached about 1975 or 1980 or whenever.

Population projections for Fort McMurray were made in two stages. Natural increase was calculated using a modified component method.[6] Unfortunately no age breakdown beyond 19 years of age is available. The current Fort McMurray birth rate and Provincial death rate for the various age groups were used. The second stage involved estimating the combined importance of net migration in urban population growth. Several possibilities are considered. In Fort McMurray this factor would be a direct result of employment possibilities which are in turn governed by industrial growth. The low figure assumes that net in-migration will be 25 per cent of the total increase during the 5 year period, while the medium projection uses a 50 per cent figure. High net in-migration would require a new plant similar to G.C.O.S. to

[6] see R. C. Atchley, Population Projections for Local Areas.

TABLE 1

POPULATION PROJECTIONS

Using 1970 Base Population of 6681	1975	1980
Low Net in-Migration	7,853	9,213
Medium Net in-Migration	8,241	10,279
High Net in-Migration	14,000 (1977)	15,200 +

be built, assuming that most of the employees would live in McMurray.[7] It has been estimated that this would cause a population increase of 5,000 persons over four years, possibly 1973-77.[8] The upper limit of this increase would be dependent on the amount of related industrial growth which a second plant would encourage.

The range of expected population is therefore considerable. In a resource centre with many variables this can be expected, and a close watch on population growth should be kept.

---

[7] Syncrude plans that most employees will live in Fort McMurray by the time their plant reaches the production stage.

[8] see Canadian Utilities. Application to Alberta Power Commission RE: Syncrude Nov. 1968.

SECTION C

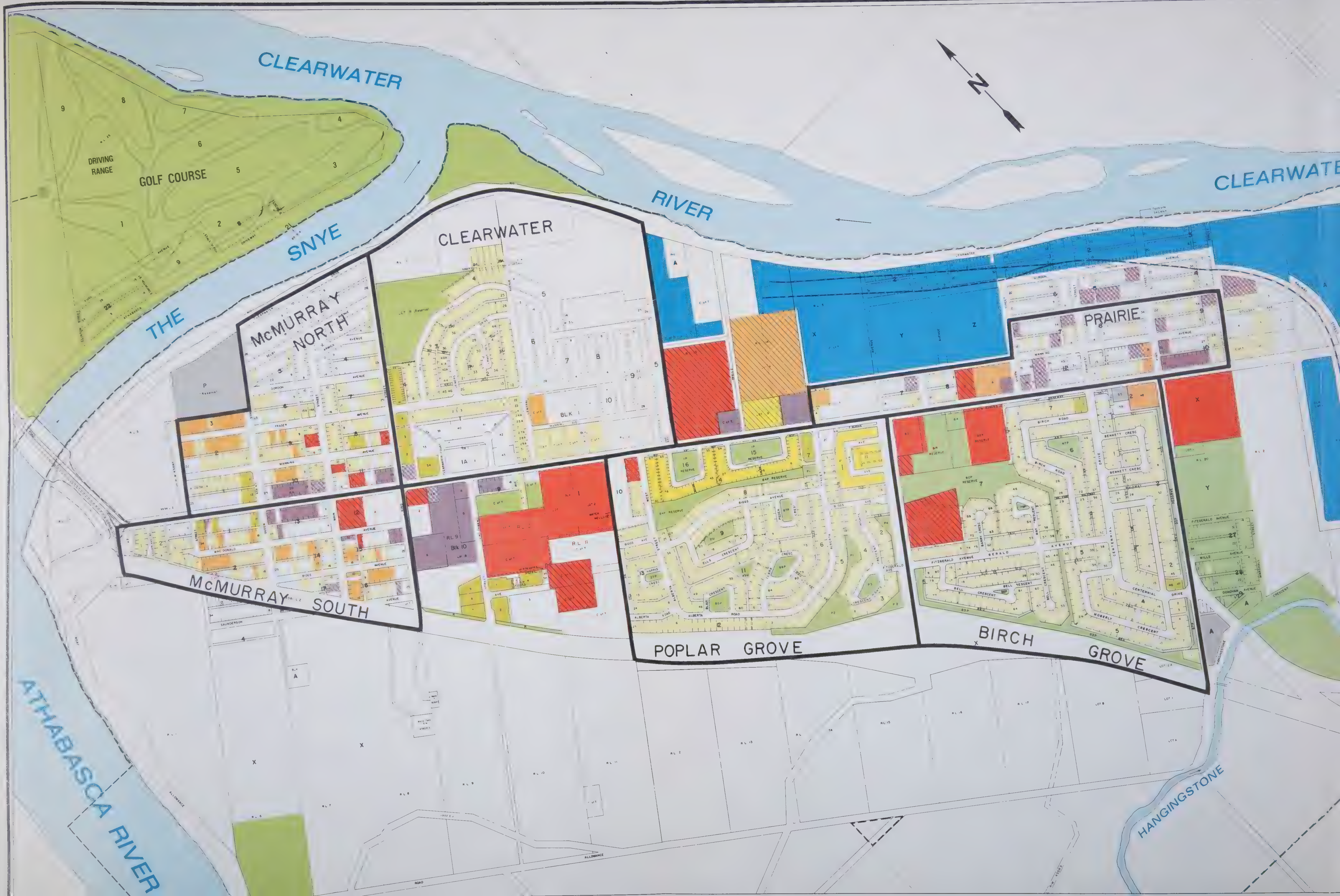
LAND USE DISTRIBUTION AND DEVELOPMENT

INTRODUCTION

Programming for optimal use of land for future urban development in Fort McMurray is a vital goal of the General Plan. In the preparation stages, studies must be undertaken which investigate spatial growth up to the present time period. The basis for such an undertaking is a detailed land use analysis which requires estimates to be made of the future space requirements for each class of use in Fort McMurray. Population forecasts and certain economic projections (discussed in Section B) are relied upon in determining space requirements.

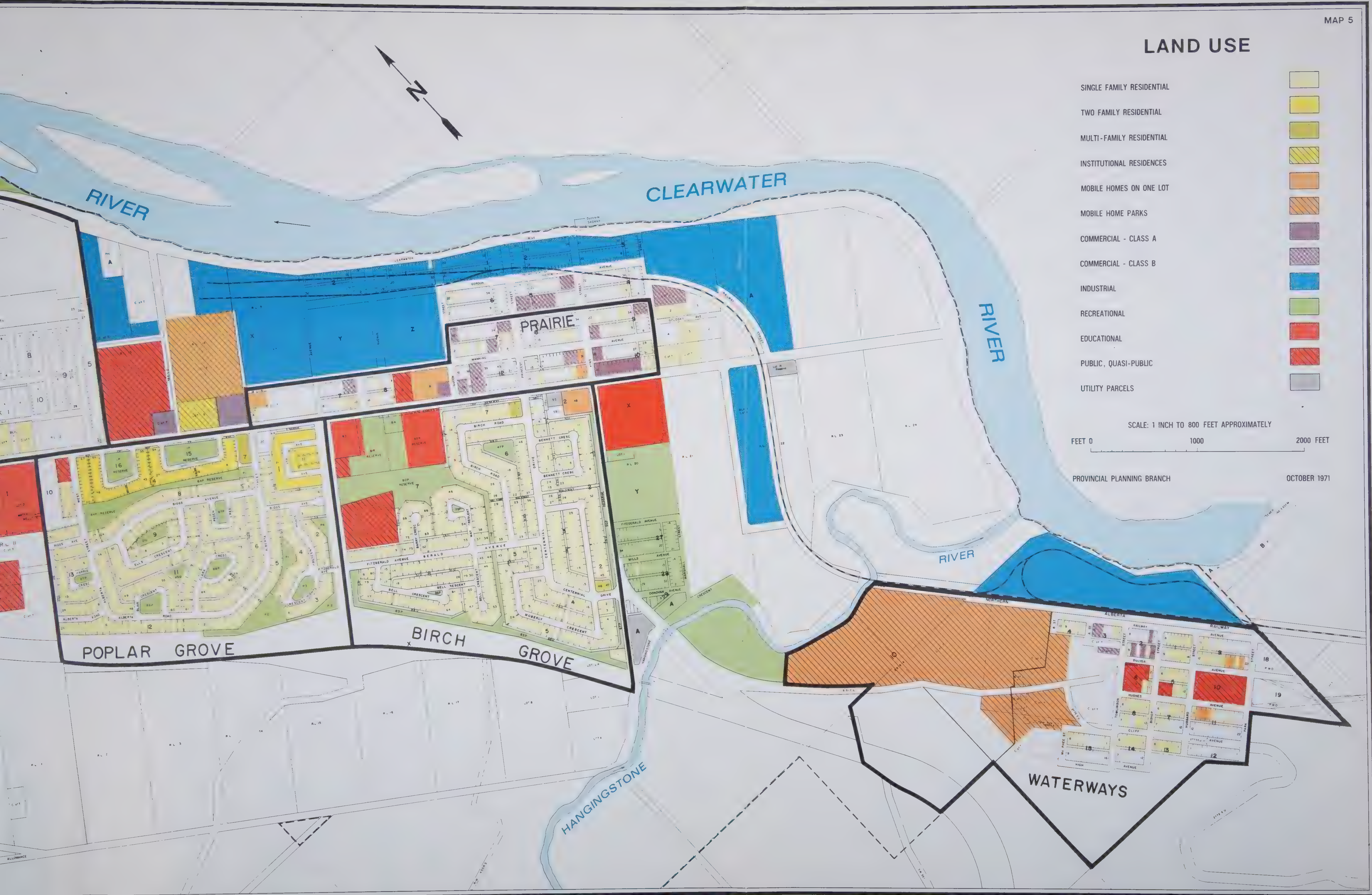
An overbearing feature in Fort McMurray is spaciousness. Only 40% of 2739 acres has been developed and a small portion of the remaining 60 per cent is suitable for development without sizable capital expenditures. Map No. 5 illustrates the land development pattern. Notably, the three land uses are "Roads and Streets" (taking up 33.6% of the developed area), "Residential" (27.5%) and "Parks and Recreation" (16.3%). Vacant land accounts for 1,640.5 acres. It is assumed that approximately one-fifth of this figure has development capabilities.

The following table gives a breakdown of land use in Fort McMurray.


CLEARWATER
RIVER
CLEARWATE
N
THE
SNYE
DRIVING RANGE
GOLF COURSE
McMURRAY NORTH
CLEARWATER
PRAIRIE
McMURRAY SOUTH
POPLAR GROVE
BIRCH GROVE
ATHABASCA RIVER
HANGINGSTONE

MAP 5

LAND USE



- SINGLE FAMILY RESIDENTIAL
- TWO FAMILY RESIDENTIAL
- MULTI-FAMILY RESIDENTIAL
- INSTITUTIONAL RESIDENCES
- MOBILE HOMES ON ONE LOT
- MOBILE HOME PARKS
- COMMERCIAL - CLASS A
- COMMERCIAL - CLASS B
- INDUSTRIAL
- RECREATIONAL
- EDUCATIONAL
- PUBLIC, QUASI-PUBLIC
- UTILITY PARCELS

SCALE: 1 INCH TO 800 FEET APPROXIMATELY

FEET 0 1000 2000 FEET

PROVINCIAL PLANNING BRANCH

OCTOBER 1971

TABLE 2

LAND USE ANALYSIS - FORT McMURRAY

	NET ACREAGE	% OF DEVELOPED LAND	% OF TOTAL
RESIDENTIAL			
Single Family	202.1		
Multi Family	19.0		
Mobile Homes	72.1		
TOTAL	293.9	27.5%	10.9%
COMMERCIAL			
CI (Retail, Ent., Ect.)	16.6	(.15%)	
CII (Trades, Services)	15,8		
TOTAL	32.4	3.3%	1.2%
INDUSTRY			
(98% Light, 2% Heavy)	104.2	9.6%	3.8%
EDUCATION			
Public & Sep. Schools	19.7		
V.A.C.	6.2		
TOTAL	25.9	2.4%	.9%

(continued next page)

	NET ACREAGE	% OF DEVELOPED LAND	% OF TOTAL
PARKS & RECREATION	194.7	16.3%	6.4%
PUBLIC & QUASI-PUB.			
Government and Community Facilities	30.9	2.8%	1.1%
PUBLIC UTILITIES	26.0	2.5%	.9%
STREETS & ROADWAYS	365.5	33.6%	13.5%
R/R	27.3	2.0%	1.0%
TOTAL DEVELOPMENT	1,098.8 (40%) of Town Total	100.0%	
VACANT	1,640.5		60.3
TOWN TOTAL	2,739.3 (not including water bodies)		100.0%

The following general observations can be made from studying the land distribution pattern.

- A lack of centralization is particularly evident throughout the townsite.
- There is extensive inter-mixing of residential, commercial and light industrial land.
- Vacant parcels of all descriptions are widely dispersed throughout the townsite. There has been little small scale (lot by lot) infilling.
- The commercial land pattern is inconsistent, and the central business zone is poorly defined.
- Light industrial land is located exclusively along the Clearwater River and the N.A.R. line.
- Former vacant river lot parcels in the central areas have been developed into large and attractive concentrations of new housing. Older residential zones are widespread within three areas, old McMurray, Waterways and the Prairie.
- Franklin Avenue is by far the main arterial road. A great deal of emphasis has been placed by business people on gaining frontage along Franklin Avenue, where there is a large volume of vehicular and pedestrian traffic.
- Certain public and quasi-public sites such as schools, and recreation and community facilities appear not to have ample operating and growth space.
- The Waterways area is separated from the main stream of development. Because of the uniqueness of its size, location and history it requires special attention.
- Mobile homes are an important element in the residential make up. They are found scattered throughout the town, and so times forced to locate on lots not designed for that purpose.
- There is a marked shortage of low rental housing in the town.

RESIDENTIAL LAND USE

The elongated shape of the Fort McMurray townsite has helped to create a linear development pattern, rather than the more common "centralized grid". Residential land occupies over 293 acres, or over one-quarter of the total developed area. A number of distinct residential areas are shown on Map 6. The dwelling units that are located outside of these seven areas, for the most part mobile homes, apartments, and squatter's "huts", are found intermixed with other land uses.

In 1970 there were 1060 residential structures in Fort McMurray, most of which were classified as either economy dwellings or one-storey dwellings.[9] The history of Fort McMurray is reflected in the fact that most buildings are either relatively new or very old. Waterways, McMurray North and McMurray South contain most of of the older dwellings, while virtually all of the housing construction since 1965, with the exception of several apartment buildings, has taken place in the Birch Grove and Poplar Grove subdivisions, and more recently in the new Clearwater subdivision. The latter area should be "settled" by 1972.

Assessment information, specifically building class, can be used as an indicator of building condition. Buildings rated E and F ("poor to fair" and "poor") are generally considered to be substandard. There are

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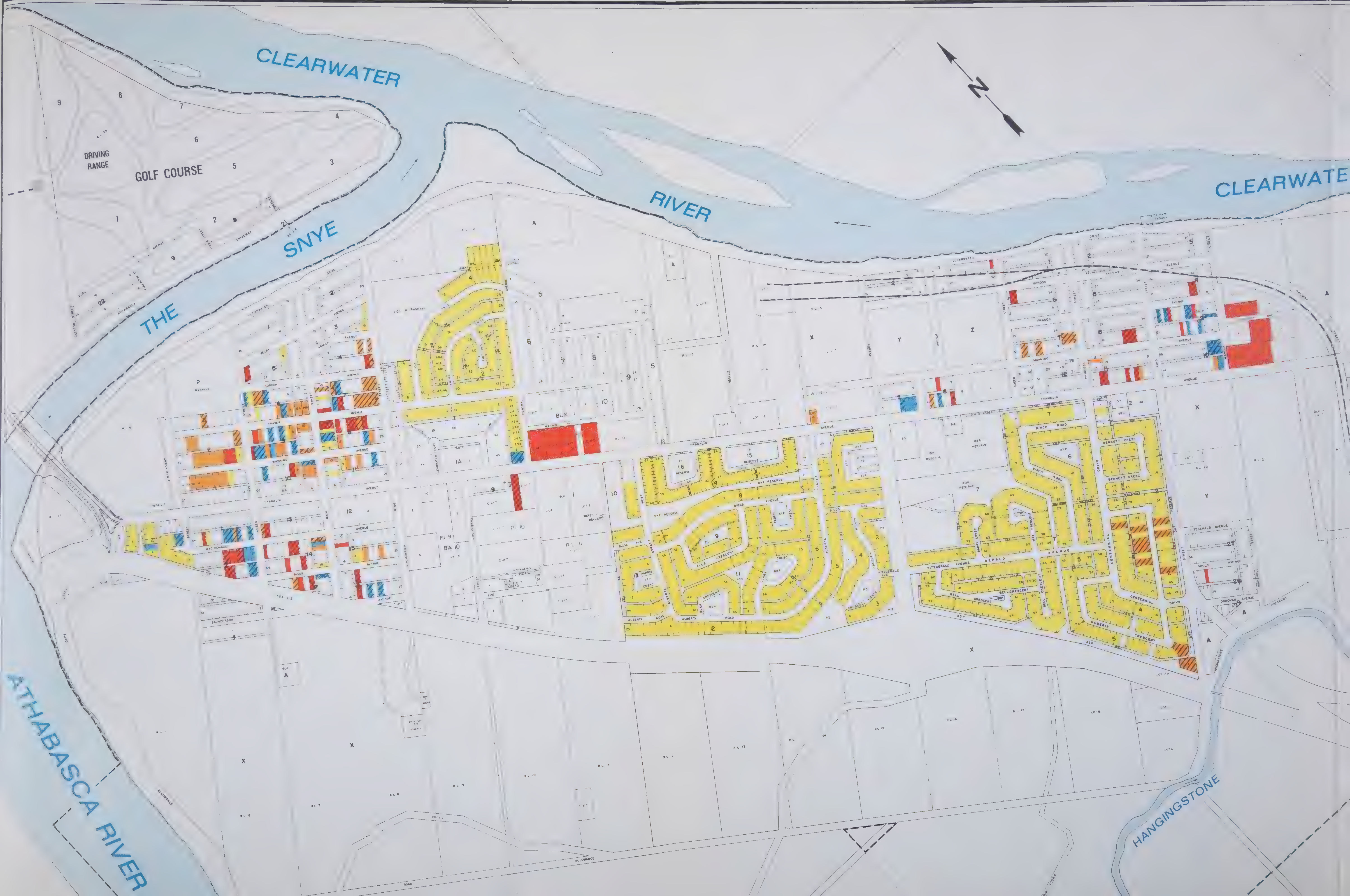
[9] Department of Municipal Affairs, Assessment Information. This figure excludes 433 mobile homes which have been assessed only very recently, if at all.


CLEARWATER
RIVER
CLEARWATE
THE
SNYE
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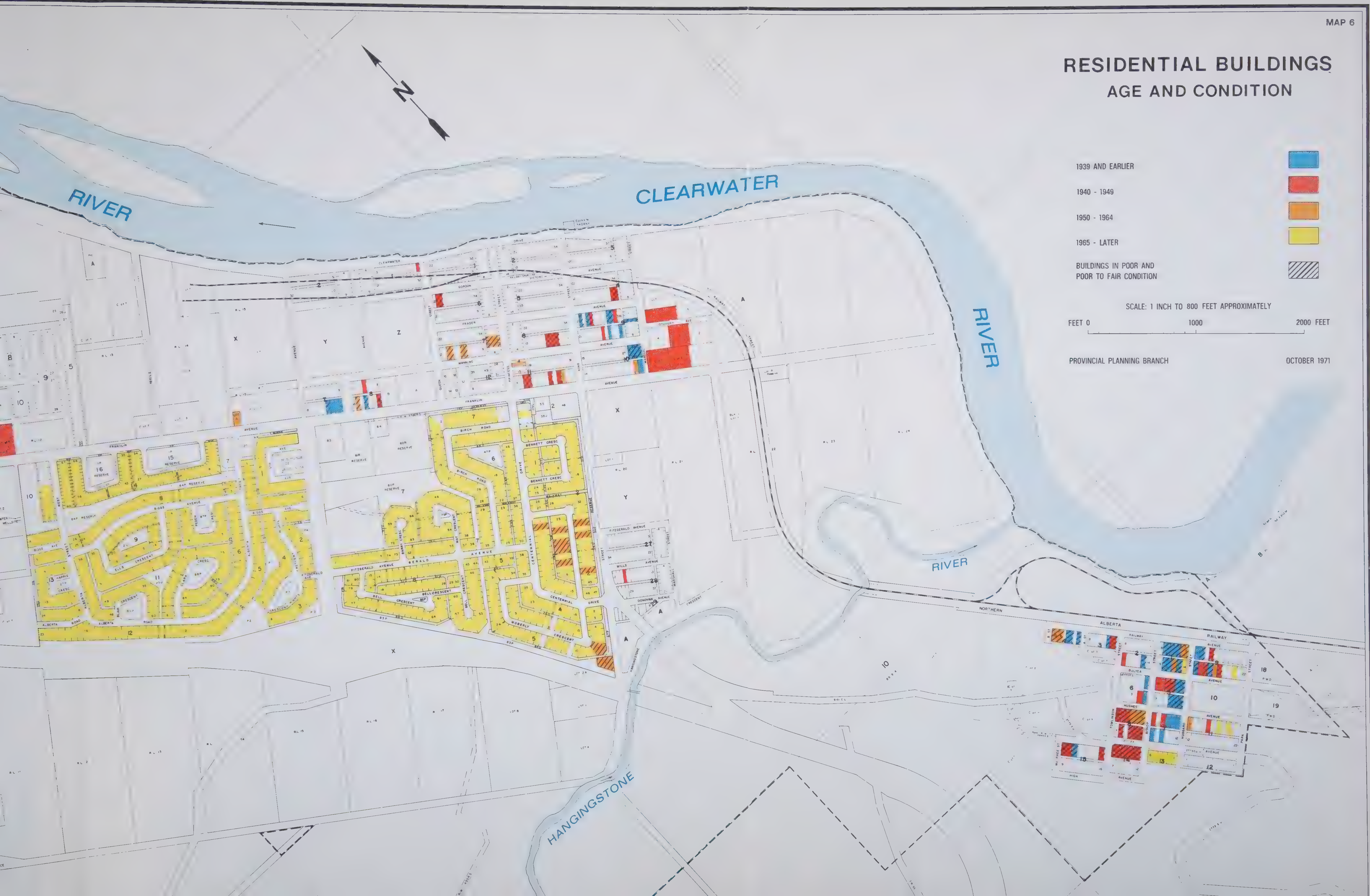
HANGINGSTONE
N
DRIVING RANGE
GOLF COURSE
BLK 1
RL 9
Blk 10
RL 10
RL 11
FRANKLIN
MANNING
FRASER
GORDON
AVENUE
BIGGS AVENUE
ALBERTA ROAD
FITZGERALD AVENUE
CENTENNIAL DRIVE
MOBERLY CRESCENT
BELL CRESCENT
BENNETT CRESC
BIRCH ROAD
X
Y
Z
A

RESIDENTIAL BUILDINGS

AGE AND CONDITION



1939 AND EARLIER	🟦
1940 - 1949	🟥
1950 - 1964	🟧
1965 - LATER	🟨
BUILDINGS IN POOR AND POOR TO FAIR CONDITION	▨

SCALE: 1 INCH TO 800 FEET APPROXIMATELY

FEET 0 1000 2000 FEET

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395 such residential buildings in Fort McMurray, and they house approximately 1250 people.[10] Over sixty per cent of this substandard housing was built prior to 1940, and it is concentrated in the older areas of the townsite.

The majority of the older residential lots in Fort McMurrary are 45' x 130'. The average size for the more recent lots are 60' x 120'.

Net residential density refers to dwelling units per acre of land actually in use or proposed to be in use for residential purposes. Highest densities are normally in areas of multi-family dwellings or mobile home concentrations. In the areas of single-family housing the town is well within accepted density standards.

In 1970 there were at least 1583 dwelling units in Fort McMurray.[11] (990 in single family dwellings, row houses, semi-detached and business suites, 158 apartment units, and 433 mobile homes). This means that the average household size was 4.15 persons net (or 4.22 persons gross). The average gross figure for the province is 3.6 persons, and for urban centres from 5,000 to 10,000 population it is 4.0. The smallest households are found in Waterways and McMurray South, and in apartments, mobile homes and squatter's huts elsewhere. The relatively high average household size is likely an indicator of housing scarcity, as well as larger than average families.[12]

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[10] Town Census 1970. The figure 1250 represents 16% of the population.

[11] A dwelling unit is a structurally separate set of living quarters with a private entrance. In this report the term refers only to a private dwelling usch as a single house or apartment, and not to a collective dwelling such as a hotel or large loding house. A residential building (or dwelling) may contain one or more dwelling units. A household consists of a person or group of persons occupying one dwelling unit. The number of households equals the number of occupied dwellings.

[12] 42.4% of the population are under fifteen years of age, compared to 34% in the urban areas of the province, and 40% in the Alberta towns from 5,000 to 10,000 population.

AMOUNT OF LAND REQUIRED

It is necessary to forecast the approximate number of dwelling units which will be required in the next ten years. The method used here employs the population projections already mentioned and the present average household size figure of 4.2 persons, which is not likely to decline substantially in the near future. The following table shows the future household requirements given; that the 4.2 figure remains constant, that the population projections are reasonably accurate, and that any of the existing dwelling units are not lost as a result of fire, deterioration of sub-standard housing, public renewal and/or construction, or by the invasion of other uses.

TABLE 3

PROJECTED NO. OF DWELLING UNITS

	1970 - 1975		1975 - 1980		
	Projected Pop. Increase	Projected Number of D.U.'s required	Projected Pop. Increase	Projected Number of D.U.'s required	TOTAL
LOW	1172	279	1360	324	603
MEDIUM	1560	371	2038	485	856
HIGH	⟶		8589	2045	2045

It has been shown that Fort McMurray could easily require up to 2,045 new dwelling units for a population of 15,200 (1980). If present trends continue, approximately one-third of these would be in the form of mobile homes and one-eighth in the form of the various types of multi-family dwellings, both high density land uses. The remaining fifty-five percent would be in the form of single family housing.

Some of this residential growth will obviously take place within the present developed area of the town. This area however can only accommodate some 9,000 to 11,500 people at the outside, and probably less if other types of land use are adequately provided. Any further development will have to take place outside of the floodplain.

Stanley Associates are now studying a number of areas outside the developed area to determine their suitability for urban growth. Soil characteristics, drainage, slumping, and servicing costs are among the elements being considered. Assuming that the mixture of single family housing and multi-family housing remains at 75% and 25%, 350 net residential acres could be required outside of the floodplain within the next ten years. This would mean a gross total of 460 acres, assuming that forty percent of residential areas are reserved for roads, schools, public buildings and the like.

COMMERCIAL TRADE AND LAND USE

DESCRIPTION

It has been shown how the economy of Fort McMurray experienced a series of transitional periods. In the past, the demand for storage, transportation, equipment maintenance, and fuel supply dominated commercial trading. These activities are still particularly noticeable in the land use distribution. However, the rapid increase of permanent residents between 1964 and 1969 provided the much needed foundation for growth stability in the town. Retail sales rose from $923,868.00 in 1964 to $6,414,000.00 in 1969.[13] Commercial outlets were finally able to benefit from a predictable market.

A wide variety of commercial services are now available in Fort McMurray. Consumer demand for goods and services is strong enough to support 191 commercial establishments (ninety-six of which are considered strictly retail).[14] A main issue in this section is that too many business operations are scattered throughout the town. Fort McMurray lacks a strong central area, not only one which consolidates retail shopping, but one which functions as the core of political and cultural activities.

13 A.B.S.

14 1969 Economic Survey

For the purpose of this section Fort McMurray's commercial establishments are divided into two subclasses:

> Commercial Business (C.I.): includes all commercial outlets which sell goods and services at the final consumer level (retail stores, personal services such as barber, beauty parlor, real estate, professional and other business offices, entertainment, hotels, motels etc).
>
> Commercial Industrial (C.II.): includes such service activities as automobile-oriented sales and services, bulk fuel storage, warehousing and wholesaling, heavy equipment maintenance, loading stations, and secondary services such as repair or workshop in the plumbing, electrical and welding trades.

The study of existing commercial developed in the town provides the following information:[15]

	Square Feet (floor area)	Sales Volume	Assessment 1970
Commercial Business (CI)	208,451	$6,269,000	$ 772,150
Commercial-Industrial (CII)	234,165	$1,291,800	$ 760,253
TOTAL	442,616	$7,560,800	$1,532,403

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[15] 1971, Taken from Municipal Affairs, Assessment Sheets.

COMMERCIAL AREA

The net utilization of commercial (CI) land in Fort McMurray is 16.60 acres or 1.6 per cent of the total developed area (Table 2). In terms of developed Commercial Business land in proportion to population, Fort McMurray has a lower average (.40 acre per 100 persons) than other resource centres of similar sizes or functions: High Level 1.34, Slave Lake .93, Grande Prairie .89, Turner Valley .86, Drayton Valley .65, Peace River .56, and Fairview .48.[16] The average for resource-oriented towns in Alberta is .97 acres per 100 people. As it will be shown, because of Fort McMurray's small populated trading area, a lower proportion of commercial land is required.

The area showing the highest commercial density is McMurray West, located along Franklin Avenue, which includes the Peter Pond Shopping Centre and extends west to Queen Street (Map 5). Portions of Blocks 10, 11, 12, 13 and 15 in Plan 616 A.O., all of Block 10 (River Lot 9) in Plan 2424 N.Y. and Block 9 in Plan 6660 B.O., together forms what might be called the Central Business Area.

The commercial centre is within reasonable distance of the major residential zones. The street grid makes direct access available from three north-south routes, Queen, Main and King Streets. Franklin Avenue, and to a lesser degree MacDonald Avenue, remain as the major east-west arterials. With additional development across the Athabasca the business centre would be more precisely located as the centre of town.

Store frontages, streets and sidewalks appear neat and well kept; however, there is a definite lack of ornamental features such as street furniture and frontage landscaping. For the most part all commercial outlets (except for those fronting on Railway Avenue in Waterways) appear on lots fifty feet or over in width.

There are 8.80 acres of commercial (CI) land in the core area; however, 6.45 acres of vacant land, and 7.34 acres of other miscellaneous uses occupy part of the zone as well. The high percentage of vacant land near peak value commercial land indicates an inadequate land use distribution.

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[16] Selected Urban Land Use, Selected Communities, T. Dykstra, D.M.A.

Due to a lack of centralized commercial (CI) type facilities, and the mixture of land uses not normally associated with the C.B.D., the commercial centre is in danger of becoming economically inefficient. A trend towards commercial decentralization is evident; major outlets are found outside the peak value zone (C.B.D.). If this shifting continues the shopper will become inconvenienced, decreased trip-frequency may result, and C.B.D. land values will fall as existing outlets become obsolescent. The ultimate result will bring the ruination of some businesses that depend on complementary trade.

A final analysis of Fort McMurray's commercial establishment deals with the structural condition of buildings. Retail outlets are in much the same condition as the houses in the newer subdivisions (Birch Grove and Poplar Grove). Approximately sixty (or sixty-two per cent) of the 96 businesses were constructed during the 1965-1969 boom period. Their present quality ratings are 'fair' and 'fair to good'.[17] The remaining structures are rated fair, due to a significant amount of remodelling and renovating, despite their lengthy presence. Approximately thirty per cent of the Commercial-Industrial buildings (CII) are rated 'poor' and 'poor to fair'. This is not serious as they generally function as secondary uses; storage sheds, garages, garage terminals, workshops etc. For the most part, the quality of commercial buildings in Fort McMurray is adequate.

TRADING AREA FORECAST

In projecting the need for commercial land, the relationship between business floor areas and 'effective' trading area is studied.[18] Fort McMurray draws from a sparsely settled trading area. Taking into account Fort McKay, Anzac, and other scattered settlements, there is a rural population of approximately 800. In essence Fort McMurray has no trading area; economic trade stems from a "captive"base. For computation purposes,

[17] Municipal Assessment Sheets, Department of Municipal Affairs.

[18] Effective trading area defined: the percentage of regional trade that will be exclusively retained by Fort McMurray businesses.

it is assumed that there will be no change in the rural population and therefore no change in the trading area pattern for some time.[19] The present population of the trading area is (6681 + 800) = 7,680.

The ten year trading forecast, based on the population forecasts discussed in Section B is shown in the following table.

TABLE 4

TRADING AREA POPULATION FORECAST

YEAR	LOW ESTIMATE	MEDIUM ESTIMATE	HIGH ESTIMATE
1975	8,653	10,041	14,800
1980	10,013	11,079	16,000

SPACE REQUIREMENTS FOR "COMMERCIAL BUSINESS" USE, 1971-1980

Commercial buildings of the Commercial Business type provides approximately twenty-seven square feet of floor space per serviced customer (total square footage ÷ trading area population). The figure twenty-seven square feet is high compared to fourteen square feet, which is the average for such towns as Westlock, Peace River, Grande Prairie, and Lloydminster.[20] It may be concluded that commercial growth during the boom period over-reacted and excessive floor space was a result. When complete growth stability was reached in 1970, approximately fifteen businesses terminated operations.

[19] However, any additional settlements in the regions will no doubt benefit commercial trade in Fort McMurray.

[20] General Plan of Oyen, 1965, p. 33.

It is assumed that the town continues to be overserviced and the existing square foot per person ratio (27) cannot be used as a valid standard in projecting expected floor/area requirements. However, a rapid rate of expansion in the Commercial Core is foreseen in the next ten years and a comparatively high square foot per capita standard must still be applied. The applied standard twenty three square feet per 100 people (which takes into account parking requirements) is considered most applicable. Using this figure, future space requirements for the effective trading area for "C1" outlets are shown in the following table. As previously discussed the estimates are based on low net migration (stable growth), medium net migration (some growth incentives) and high net migration (additional large scale industry).

TABLE 5

PROJECTED COMMERCIAL FLOOR SPACE REQUIREMENTS

LOW ESTIMATE			MEDIUM ESTIMATE			HIGH ESTIMATE		
POP.		Year	POP.		Year	POP.		Year
(6,881)	208,451	1971	(6,881)	208,451	1971	(6,881)	208,451	1971
(8,653)	200,000	1975	(10,041)	208,451	1975	(14,800)	340,400	1975
(10,013)	230,299	1980	(11,079)	254,816	1980	(16,000)	374,900	1980

The amount of acreage required to facilitate the projected amount of square feet (as shown in Table 5) is given in the next table. Acreages have been determined from the rule that building coverage equals approximately one-third of the acreage.

TABLE 6

PROJECTED COMMERCIAL LAND REQUIREMENTS

LOW ESTIMATE			MEDIUM ESTIMATE			HIGH ESTIMATE		
POP.		Year	POP.		Year	POP.		Year
(8,653)	13.7 acres	1975	(10,041)	14.3 acres	1975	(14,800)	23.4 acres	1975
(10,013)	16.0 acres	1980	(11,079)	17.5 acres	1980	(16,000)	25.8 acres	1980

CONCLUSIONS

From the analysis it is expected that an additional 9, 619 people will be added to the effective trading area by approximately 1980. This rapid change will generate an increase of 166,439 square feet of floor space for "C1" businesses. In order to provide for sufficient development space because of floor area changes, 25.8 acres of "C1" land (or 9.3 additional acres) should be included in future land use.[21]

Presently, 15.8 acres of "CII" land is developed in the townsite, primarily found in the "Prairie" section, east of the Northern Transportation depot. Additional "CII" activities (automotive and service businesses) are particularly noticeable along Franklin Avenue. The existing amount of "CII" land serves the community adequately. However, if the population increases rapidly, it is safe to assume that 15 additional acres should be reserved for new establishments or expansion of the "CII" type.

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[21] It has been mentioned that it is difficult to fix a time scale for the town's growth because of the uncertainty surrounding the commencement date for future economic expansion in the area. It is suggested, that the problem may be viewed on the basis of population sizes; fixed time periods must be considered arbitrary.

If the high population projections are reached (including the trading area) total commercial acreage should reach 57.4 acres. This study will advise in Part II that approximately 10 acres of C.B.D. land should be defined and protected for future "CI" use. The economic stability of the C.B.D. in the future will be determined on its ability to serve the population adequately.

INDUSTRIAL LAND USE

For the purpose of this report industrial land in Fort McMurray, including 2.07 acres of heavy industry is termed light industry. Activities in this category have specialized functions. Their similarity is with respect to the use of and proximity to the rail line. Such companies as Northern Transportation, Caouette Trucking, Swanson Lumber, Redi-Mix cement, and various bulk fuel stations are located in the north-eastern and eastern portions of the townsite (Map 5). The Redwood concrete batching plant is the only heavy industry within the town. Swanson Lumber is the only industry mentioned which lies outside the town's corporate limits.

The industrial area, as defined above, comprises 104.2 acres or 9.6 per cent of the developed land in Fort McMurray. Industrial land is found entirely along the existing alignment of the N.A.R. tracks in the northeast and east. The present standard of industrial development is favourable, particularly because very little processing or heavy manufacturing is allowed in the townsite. Some general observations are (a) industrial subdivisions (parks) are lacking and (b) there is a great deal of intermixing of residences and CII uses with industry. In addition a noticeable amount of vacant land (in both small and extremely large parcels) lies within the industrial area. In this respect industrial expansion may readily take place into these zones. The town should be prepared to make available the essential services needed to attract certain types of light industry and CII activities. Well priced and well serviced subdivided parcels are ideal incentives.

In addition to the production of crude oil, the Fort McMurrary region may experience new by-product industries such as petro-chemical-glass, heavy minerals production, metallurgic fabrication and others. Areas outside Fort McMurray will be recommended for additional industrial development, particularly if noxious emissions are involved (manufacturing and processing).

EDUCATION

DESCRIPTION

Facilities for elementary, junior high and senior high school education are offered by four individual schools in Fort McMurray; two in the public school system and two in the separate school system. Both the Fort McMurray Roman Catholic Separate School District No. 32 and the Fort McMurray Public School District No. 2833, are independently governed by a locally elected Board of Administrators. The combined enrollment is 2,167 pupils, 3.3 percent of whom are classed as non-resident.[22] Fort McMurray schools service the 'effective' trading area exclusively; 7,680 people.

All four schools, and the Alberta Vocational Centre, have been built along the southerly edge of Franklin Avenue between the Peter Pond Shopping Centre and Marshall Street. The Vocational Centre provides adult training in academic up-grading, pre-apprenticeship trades and occupational trades. Students vary from those with no formal education to a grade twelve background. Maximum enrollment is approximately 225 students.[23]

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[22] Figures were provided by each school district in the fall of 1971.

[23] Figures were obtained from the Department of Industry and Tourism, "Survey of Fort McMurray".

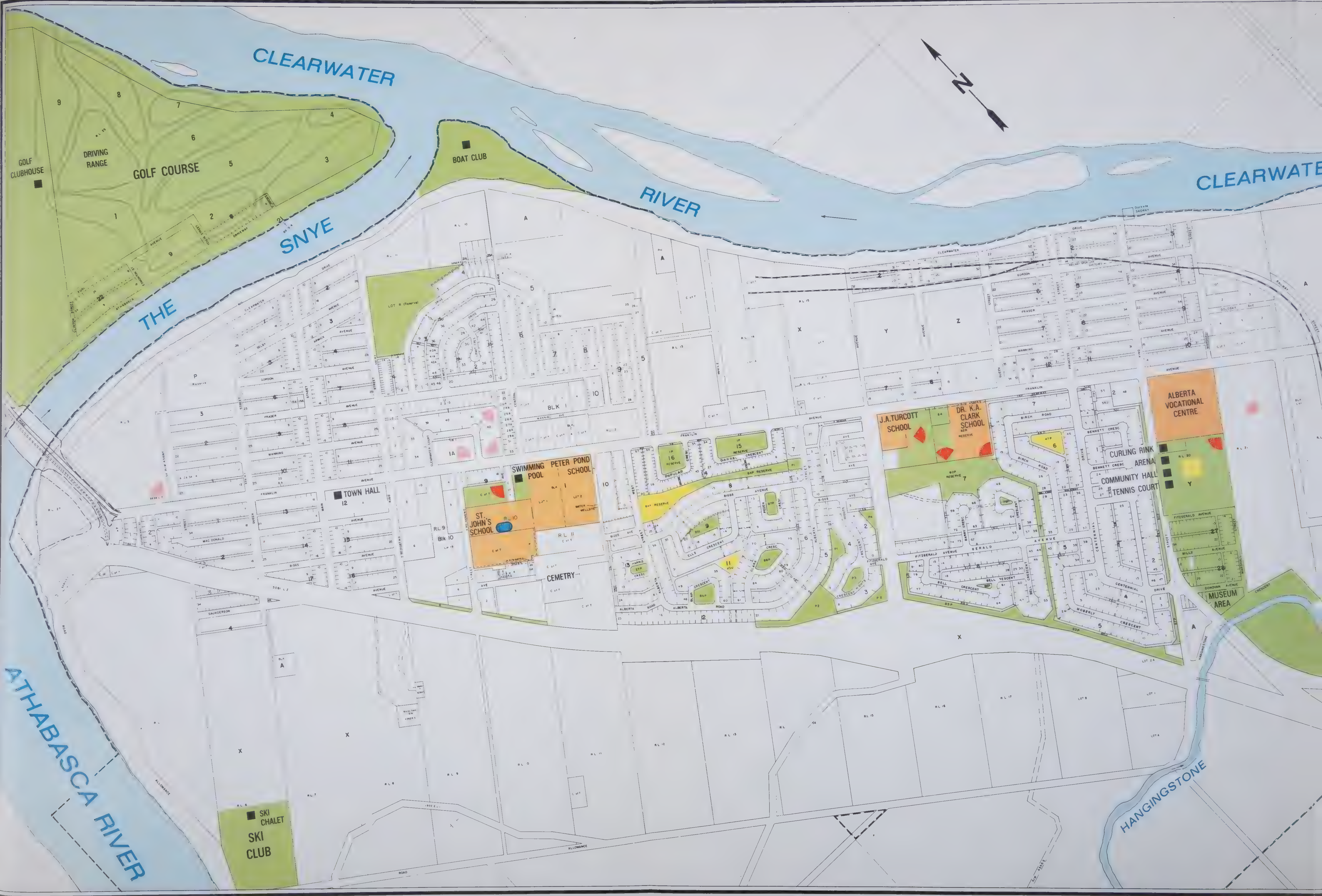
A brief description of the remaining four schools follows:

TABLE 7

SCHOOL CHARACTERISTICS

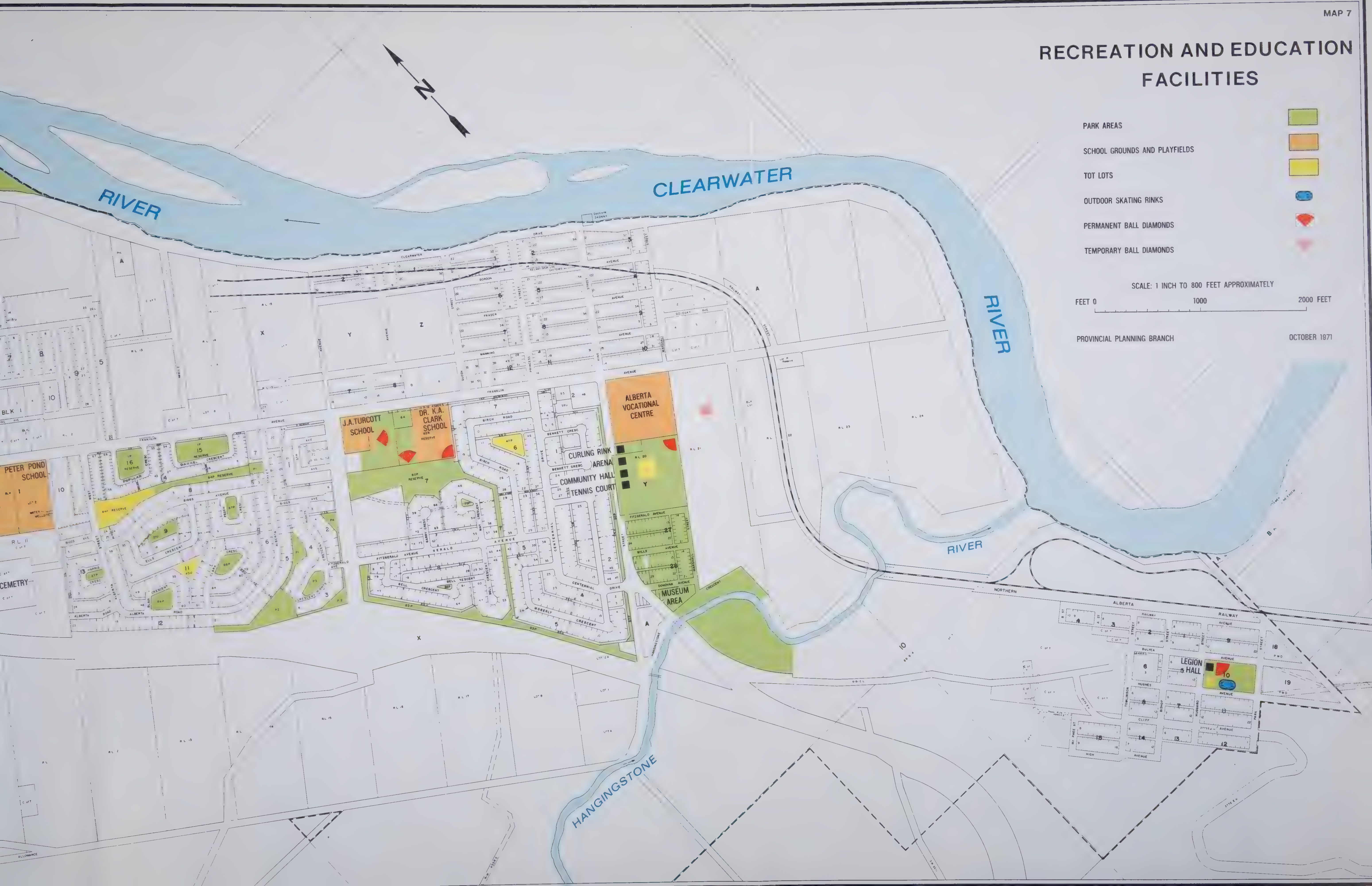
	St. John's	J. A. Turcotte	Dr. K. A. Clarke	Peter Pond
Date of Construction	1936	1968	1967	1961
Date of Additions	1950 1962 1971	1971	1969	1963 1965
Site Size (acres)	3.87	2.00	4.52	9.24
Square Footage	13,000	35,000	50,000	41,804
No. of Classrooms	10	21	29	24
System	Separate	Separate	Public	Public
Grades	6 to 9	1 to 5	1 to 6	7 to 12

Although the dispersal of schools along Franklin Avenue increases the amount of exposure of school children to high volumes of traffic, the school sites are advantageous in relation to the pattern of residential distribution. (Map 7). An average walking distance of five to nine blocks separate the schools from the main concentration of single family housing. Maximum walking distances however, are upwards of one and one-half miles. This disadvantage affects only a small percentage of the students, though it will


CLEARWATER
RIVER
CLEARWATE
THE
SNYE
ATHABASCA RIVER
HANGINGSTONE
N
GOLF CLUBHOUSE
DRIVING RANGE
GOLF COURSE
BOAT CLUB
LOT R (Reserve)
TOWN HALL
SWIMMING POOL
PETER POND SCHOOL
ST. JOHN'S SCHOOL
CEMETRY
J.A.TURCOTT SCHOOL
DR. K.A. CLARK SCHOOL
ALBERTA VOCATIONAL CENTRE
CURLING RINK
ARENA
COMMUNITY HALL
TENNIS COURT
MUSEUM AREA
SKI CHALET
SKI CLUB
FRANKLIN
AVENUE
ALBERTA
ROAD
ALLOWANCE
CENTENNIAL
CRESCENT

MAP 7

RECREATION AND EDUCATION FACILITIES



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become particularly acute with new housing in the west, and at Waterways where certain grades are not offered at the closest school. Intersections along Franklin Avenue near the new housing areas in the west will require more protective controls.

Excluding the Vocational Centre,the amount of school land provided is 19.67 acres. A pupil to acres ratio shows that J. A. Turcotte and Dr. K. A. Clark are found on sites proportionately smaller than the remaining two schools. According to the Department of Education standards, the amount of land used for formal education in Fort McMurray should be approximately thirty-five acres.[24] A deficiency of fiteen acres (thirty-five minus twenty) is not critical, since the standard is designed for new school sites in large communities; nevertheless, it does point out that newer neighbourhoods in Alberta have the benefit of more space. More important, when future structural expansion is necessary for existing schools, a serious shortage of recreation space for extra-curricular and community activities will result. Peter Pond and St. John's are less seriously affected by this problem than the other two.

The condition and appearance of all schools is good. However, a survey taken in the September of 1971 indicated both public schools and J. A. Turcotte are experiencing accommodation problems.[25] The high school requires major remodelling and alterations for a number of instruction areas. Dr. K. A. Clark reports that overcrowding conditions presently exist, however an addition of six classrooms, a gymnasium and a library will be built shortly. St. John's reports that four classrooms are located in ancillary rooms not designed for that purpose. Nevertheless the Separate School systems only have until early 1972 before major expansion is required again New school sites are presently being sought. The problem is further emphasized in the following pages.

The following discussion of student enrollment, classroom deficiencies and enrollment forecasting is necessary in order to evaluate present facilities and future projections.

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[24] Alberta Regulation No. 30362 (Department of Education) recommends five acres for first 100 students plus one acre for each 100 students thereafter for one school site.

[25] Education Questionnaire, distributed by Provincial Planning Branch in Fall 1971.

STUDENT ENROLLMENT

The enrollment figure 2,167, taken in September of 1971 represents twenty-eight percent of the population of the town and trading area combined. Enrollment in the public school system is 1,391, and in the separate system, 776.[26] The ratio of resident school population to town population, 310:1000, is extremely high compared to such centres as Vermilion - 215; Edmonton - 230; Peace River - 232; Grande Prairie - 260; Fairview - 270; and Cardston - 290. This indicates that the town has a relatively high proportion of young people which can be attributed in part to an in-migration of people in the fifteen to thirty age groups. These characteristics are brought out in the following tables:

TABLE 8

DISTRIBUTION OF STUDENTS BY GRADES, SEPTEMBER 1971

Grade	Separate Schools	Public Schools	Total
1	91	151	242
2	106	158	264
3	117	132	249
4	92	132	224
5	89	119	208
6	87	97	184
7	89	105	189
8	36	110	146
9	44	113	157
10		109	109
11		88	88
12		77	77
opp	30		30
TOTAL	776	1,391	2,167

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[26] By a recent agreement, Roman Catholic high school students are now attending public schools.

Two factors, in-migration of young families and an extremely high birth rate since 1963 have largely contributed to high enrollment in elementary grades. Approximately sixty-two percent of the pupils are in the elementary grades one to six. Such centres as Vermilion, Fairview, Grande Prairie, Peace River and Edson are respectively forty-nine percent, fifty-four percent, fifty-seven percent, fifty-eight percent and sixty percent. In 1969, sixty-nine percent of the pupils were in elementary grades. The present figure is lower because of a declining rate of in-migration.

TABLE 9

RESIDENT AND NON-RESIDENT STUDENTS, SEPTEMBER 1971

School	Non-Resident	Resident	Total
J. A. Turcotte	25	500	525
St. John's	21	230	251
Dr. K. A. Clark	18	771	789
Peter Pond High School	6	596	602
	70 (3.3%)	2,097 (96.7%)	2,167

Table 9 indicates that rural enrollment accounts for merely 3.3 percent of the total. As Fort McMurray grows, it is unlikely that the population in the trading area will increase beyond the 800 figure previously mentioned. The 3.3 percent figure will become less important as Fort McMurray grows.

Past enrollment figures for the four schools have increased rapidly, without related increases in school facilities. Between the years 1965 and 1971 an increase of over 240 percent occurred.

TABLE 10

PAST SCHOOL ENROLLMENT

Year	Enrollment	% Increase
1965	645	0
1966	878	+35
1967	1,615	+84
1968	2,030	+ 25
1969	2,350[27]	+15
1970	2,280	- 3.6
1971	2,167	- 4

Source: Information taken from Education Questionnaire 1971

CLASSROOM FACILITIES

In providing for future education facilities, it is necessary to examine the flexibility of present accommodation practices. Using the 1971 enrollment figure and applying a twenty-seven students per classroom

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[27] School enrollment reached a peak in 1969, however classrooms were severely overcrowded. An average of 30 to 32 were registered per classroom.

ratio, then 80.2 classrooms are theoretically needed to accommodate the students of Fort McMurray.[28] The present availability is eighty classrooms indicating that capacity has been surpassed. The following table, showing the distribution of students per classroom, further illustrates the problem.

TABLE 11

CLASSROOM CHARACTERISTICS

	No. of Students	No. of Classrooms	Students Per Classroom	Classroom Surplus or Deficit[29]
Grades 1 to 6				
Public	789	29	28.1	1.2 classroom deficit (1971)
Separate	582	24	25.0	1.7 classroom surplus (1971)
Grades 7 to 9				
Public	418	14	29.8	1.5 classroom deficit (1970)
Separate	166	6	27.6	.8 classroom deficit (1970)
Grades 10 to 12				
Public	274	10	27.4	.7 classroom deficit (1970)
Separate				

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[28] Projections by various planning authorities are based on either 25 or 30 students per classroom. Taken from Table 11, this report employs an average of 27 students per classroom.

[29] Based on 27 students per classroom.

From Table 11, it is apparent both the public and separate school systems are deficient in meeting certain classroom demands. Each system reports to be accommodating approximately forty to seventy students over capacity. The two groups, grades 1 to 6 (public school only) and 7 to 9, are more seriously affected. Some relief is indicated with six new classrooms being added to Dr. K. A. Clark however, this will only allow temporary breathing space for the public school system.

PROJECTED STUDENT ENROLLMENT

School enrollment over the past few years has experienced both rapid increases, as a reflection of industrial growth, and a moderate decrease as the economy stabilized. If the economic growth for the next few years remains steady, enrollment rates should also become less erratic. The bulk of migrant children have been absorbed by the school system. However, pressure is not completely alleviated as 973 pre-school children have yet to be accommodated. Additional large scale industry is also foreseeable and this will no doubt alter any regular patterns of enrollment.

The method utilizing the ratio of school population to total population appears to be the most widely used procedure in forecasting enrollment. The proportion of students (310) per 1,000 population is estimated for each forecasted year.[30] The following enrollment forecasts are for a ten year planning period and are calculated for both the low and high population projections.

TABLE 12

PROJECTED SCHOOL POPULATIONS[31]
(Low Projection)

Total Population Projection	Year	Public	Separate	Total Both Systems
8,653	1975	1,824	858	2,682
10,013	1980	2,111	993	3,104

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[30] The figure 310 students per 1,000 was determined on page

[31] Currently, thirty-two percent of total enrollment are Roman Catholic students, therefore a 32:68 ratio is applied in separating the two systems.

TABLE 13

PROJECTED SCHOOL POPULATIONS

(High Projection)

Total Population Projection	Year	Public	Separate	Total Both Systems
14,800	1975	3,120	1,468	4,588
16,300	1980	3,437	1,616	5,053

A second projection separates the calculations into grade divisions. The present distribution of students according to grades is:

Elementary	1 - 6	61% (1,371)
Junior High	7 - 9	23% (492)
Senior High	10 - 12	16% (294)

The average distribution of pupils according to grades for such centres as Fairview, Grande Prairie, Edmonton, Lloydminster and Edson is fifty-nine percent (1-6), twenty-four percent (7-9) and seventeen percent (10-12).[32] The present grade distribution for Fort McMurray schools is similar to the described centres. By applying the existing distribution of students according to grades to the projected enrollment figures in Tables 12 and 13, the following projection is arrived at:

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[32] Fairview General Plan, page 51.

TABLE 14

ESTIMATED SEPARATE SCHOOL ENROLLMENT BY GRADES

Population Projection	Year	Elementary		Junior High		Senior High		Total	
		Low	High	Low	High	Low	High	Low	High
14,800	1975	524	895	197	338	137	235	858	1468
16,300	1980	606	986	228	371	159	259	993	1616

TABLE 15

ESTIMATED PUBLIC SCHOOL ENROLLMENT BY GRADES

Population Projection	Year	Elementary		Junior High		Senior High		Total	
		Low	High	Low	High	Low	High	Low	High
14,800	1975	113	1903	420	718	291	499	1824	3120
16,300	1980	1288	2096	486	791	337	550	2111	3437

A final projection deals with classroom demands. The estimates assume a maximum number of twenty-seven students per classroom.

TABLE 16

CLASSROOM PROJECTION – SEPARATE SCHOOLS
(Using 1970 enrollment figures)

Population Projection	Year	Elementary		Junior High		Senior High		Total	
		Low	High	Low	High	Low	High	Low	High
14,800	1975	28.5	49	12	21	7	12	47.5	82
16,300	1980	33	54	14	23	8	13	55	90

TABLE 17

CLASSROOM PROJECTIONS - PUBLIC SCHOOLS
(using 1970 enrollment figures)

Population Projection	Year	Elementary		Junior High		Senior High		Total	
		Low	High	Low	High	Low	High	Low	High
14,800	1975	32	55	14	23.5	7	12	53	90.5
16,300	1980	37	60.5	16	26	8	13	61	99.5

CONCLUSION

It is expected that the school system will enroll an additional 2,886 students (high estimate) by 1980 or when a population of 15,200 is reached in Fort McMurray. From the low estimate, an additional 937 students is projected for 1980 (or for a town population of 9,213). The existing system can accommodate approximately 150 new students, given that the new classrooms added to Dr. K. A. Clark are completely occupied.

The separate school system will have sufficient space until the fall of 1973. Following this period, approximately 800 additional students will require accommodations (thirty classrooms) by the end of the planning period.[33] These figures apply to only elementary and junior high instruction.

The public school system (providing it continues to facilitate Roman Catholic High School students) will not have sufficient space in the fall of 1972. If, however, Dr. K. A. Clark and Peter Pond are forced to accept thirty students or more per classroom, close to eighty-five new students may be added in 1972. Beyond this point, facilities to house 2,046 students (seventy-six classrooms) must be built during the duration of the planning period.

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[33] A new school site is being planned in Waterways; information concerning construction date, size and function has not been made available.

School authorities are immediately faced with the problem of providing new facilities or the expansion of present facilities. If Fort McMurray's growth continues to stabilize major additions to the Peter Pond building (for 250 new students) and a new school in Waterways (600 new students) could accommodate the expected enrollment for the planning period.

In the case of rapid growth (high estimates), a second elementary school in addition to the Waterway's proposal, must be considered for the townsite proper. The study has indicated a deficiency in the amount of school land in Fort McMurray using Department of Education standards. This must be taken into account in addition to finding new sites if a high population estimate (15,200) is foreseeable. Using the same standard, the amount of land necessary would be thirty-two to thirty-seven acres. Proposals regarding future school sites are provided in Part II of the General Plan.

PARKS AND RECREATION

Recreation planning has too often become a static single function activity; it must be treated as an essential part of the total municipal plan. A town's population must be provided with at least the minimum amount of space and facilities required for recreational pursuits. The U.S. National Recreation Association recommend that one acre per 100 inhabitants should act as a minimum standard for smaller centres. The location of such sites should be determined from a careful appraisal of population needs in relation to existing services. Decisions concerning recreational development in Fort McMurray are made by a seven man Recreation Board, who in turn advise a Recreation Superintendent.

There is an abundance of open space within the corporate limits not designated as park or recreation. The larger areas are found along the Snye (an elongated strip), the Clearwater River (east of the Prairie), the surface of the escarpment, and parts of MacDonald Island. However, only a limited amount of these open areas can be feasibly developed (mainly MacDonald Island and parts of the Snye strip) for recreation expansion. Nevertheless, openness, with as much shelter planting as possible, (trees and grass seeding) is considered as functional space required within a townsite. Formal park or recreation sites appear well dispersed throughout most of the populated portions of the townsite. Fort McMurray has an adequate amount of space devoted to park and recreation, as well as a wide variety of developed facilities (Map 7). Table 18 provides a full inventory of both parks and indoor/outdoor sports facilities and their respective site sizes.

The Recreation Centre, near King Street, offers the widest range of facilities for year-round use; ice skating, tennis, softball, baseball, curling, tot lots and community hall functions. The Community Hall, Arena, and Curling Rink, however, are all small structures for a town the size of Fort McMurray. The special use areas, (the single activity facilities) such as the golf course, ski hill, and swimming pool, are within easy commuting distances.

TABLE 18

PARKS AND RECREATION INVENTORY

		Activity	Acreages
1.	RECREATIONAL FACILITIES (Developed Sites for Organized Sports)		
	A.	Golf Course on MacDonald Island	115.59
		- Nine Holes - Club House - Driving Range	
	B.	Ski Development on the Escarpment	12.00
		- Lodge - Two Runs, Tow Rope	
	C.	Swimming Pool (R.L. 10)	1.20
		- Heated Indoor Pool and Facilities	
	D.	Hanging stove, Park, Museum and Swimming Area	10.51
	E.	Community Recreation Centre	10.50
		- Softball Diamond - Little League Baseball Diamond - Two (hard-surfaced) Tennis Courts - Ice Arena, seating approximately 425 - Oil Sands Curling Rink, 4 sheets - Community Hall (quite small)	
	F.	Waterways Recreation Area (Legion Property)	1.50
		- Playfield - Legion Hall - Outdoor ice rink (heated change facilities) - Permanent Ball Diamond	

G.	Five Temporary Ball Diamonds	2.50
H.	St. John's School Yard	1.34
	- Permanent Ball Diamond - Soccer Pitch - Outdoor Rink (heated change facilities)	
I.	Boat Club Facilities	
J.	Special Area (between J.A. Turcotte and K.A. Clark Schools)	
	- Three Permanent Ball Diamonds - Soccer Pitch - Jumping Pits - Toboggan Run	
	Sub-Total	169.14
II.	PLAYGROUNDS	
A.	Birch and Centennial: In Birch Grove Subdivision, 47P.	1.18
B.	Waterways Recreation Area (Legion Property)	.30
C.	Recreation Centre off King Street	.30
D.	Alberta Drive: In Poplar Grove Subdivision, 84P.	.30
E.	Clark Crescent: In Poplar Grove Subdivision, 88P.	.30
	Sub-Total	2.30
III.	PARKS AND URBAN RESERVE	
A.	Clearwater Subdivision (Community Park unfinished)	7.60
B.	Waterways Recreation Area (Legion Site)	1.04

C.	Poplar Grove, Moss Crescent Facing Franklin Avenue	2.17
D.	Poplar Grove, McWilliams Crescent Facing Franklin Avenue	1.51
E.	River Lot 12, Block 10, South of Franklin Avenue	2.94
F.	Park Reserve (some Utility Lots), 86P., 850.P3 PI, 87P., 79P., 84P., and 27P.	8.00
	Sub-Total	23.22
IV.	UNDEVELOPED SITES (Open Space Areas with Obvious Recreation Potential)	
A.	Heavily Treed Portion on MacDonald Island Lying Between Golf Course and Snye Dyke	84.89
B.	Area Proposed For Golf Course Extensions	77.90
C.	Clearwater Strip (Adjacent the Snye)	47.00
	Sub-Total	209.79
	GROSS AREA	404.45
	NET AREA (Excluding IV)	194.66

The new indoor swimming pool contains a diving tank separate from the common swimming area. The residents of Waterways benefit from a centrally located recreation centre; Legion Hall, tot lot, outdoor rink, ball diamond and playfield. The two residential areas, McMurray North, and McMurray South, are void of both recreation facilities (including tot lots) and a much needed neighborhood park. The nearest available facilities are the St. John's and Peter Pond school grounds. It is unlikely, however, that Fort McMurray with its unique proportions can completely cope with equalizing the distribution of facilities.

A total of 25.52 acres of park, playground and urban reserve exist. Birch and Poplar Grove subdivisions are good examples for residential areas utilizing an extensive park and playground network. Three good sized tot lots and fourteen well treed park sites occur here. In addition their proximity to the four major schools allow for the utilizing of school ground space. Upon completion of the proposed community park in the new Clearwater subdivision, Fort McMurray will have an adequate amount of developed outdoor space for approximately 11,500 people.[34]

Close to seventeen per cent of the developed land (or 194 acres in Fort McMurray is devoted to parks and recreation (including playgrounds and sports fields). The following medium sized towns show a lower percentage of recreation space; Turner Valley .23, Fairview 2.05, Slave Lake 3.03, Edson 3.15, Drumheller 4.13, Wetaskiwin 4.54, Drayton Valley 6.35, and Hinton 13.97.[35] Fort McMurray makes use of 2.4 acres per 100 population. This is far more space than the standard requirements for a community of 7,000 people. These figures do not include additional space and facilities provided by the school sites.

For the purpose of establishing present and future requirements, the standards discussed are based on this ratio of acreage of recreation and park land to population. For example the towns of Edson, Drayton Valley and Westlock showed a lack of recreation land; .62, .82 and .76 acres per 100 respectively in 1969. In 1969, Whitecourt had 7.5 acres and Hinton 4.0 acres per 100. Both the U.S. National Parks Service and the U.S. Recreation Association recommend one acre per 100.[36] In a report by J. Spender, the City of Edmonton recommends one acre per 50 population, including school sites. Fort McMurray can claim 2.05 acres per 50 population (adding 194 acres to the 19.67 acres of school), or 109 acres over the theoretical required amount.

[34] The estimate is based on one acre per 500 population; outdoor Recreation Space Standards (V.S. Bureau of Outdoor Recreation).

[35] Taken from Urban Land Use Analysis of Selected Alberta Communities, pp. 130-136.

[36] The Wisconsin Planning Commission and the Outdoor Recreation Space Standards respectively recommend one acre per 200, and one acre per 500 population.

CONCLUSIONS

It is estimated that enough developed park and recreation space exists to facilitate expansion and new construction for the needs of approximately 9,000 people. Additional space can be made available through the use of MacDonald Island and portions of low lying lands along the Snye and Athabasca River (east bank, near the bridge). Low lying areas in the townsite are ideal locations for recreation zoning. It would be a means of prohibiting development within the flood zone; preventing property loss and allowing natural stream flow. Expansion of the Recreation Centre can also be accommodated in Block 27 and 28, adjacent to King Street (8.5 acres). Theoretically, sufficient open space is available to provide for the needs of 12,000 people located in the townsite. The availability of prime recreation land in areas surrounding the townsite is practically unlimited.

Serious consideration must be given towards the future development of the remaining 84.87 acres of MacDonald Island. There are several alternatives suggested: (a) the integration of housing and special recreational uses in one neighborhood design; (b) total dedication to park and recreation uses; (c) a multi-public complex, one which joins several institutional uses together (schools, hospitals, public buildings, etc.) with recreational structures. The "Island" carries some highly desirable features. It is located within minutes of the townsite. It is well confined and therefore free of distracting elements such as through-traffic, noise, etc. More important, it is free of flooding and aesthetically desirable. For these reasons, importance lies in making the Island available for public use.

It has been discussed that structural facilities in Fort McMurray for certain recreations are barely adequate. Part II will emphasize expanding the Recreation Centre, Arena, Curling Rink, Community Hall, etc.

SECTION D

UTILITIES AND SERVICES

WATER TREATMENT AND DISTRIBUTION SYSTEM

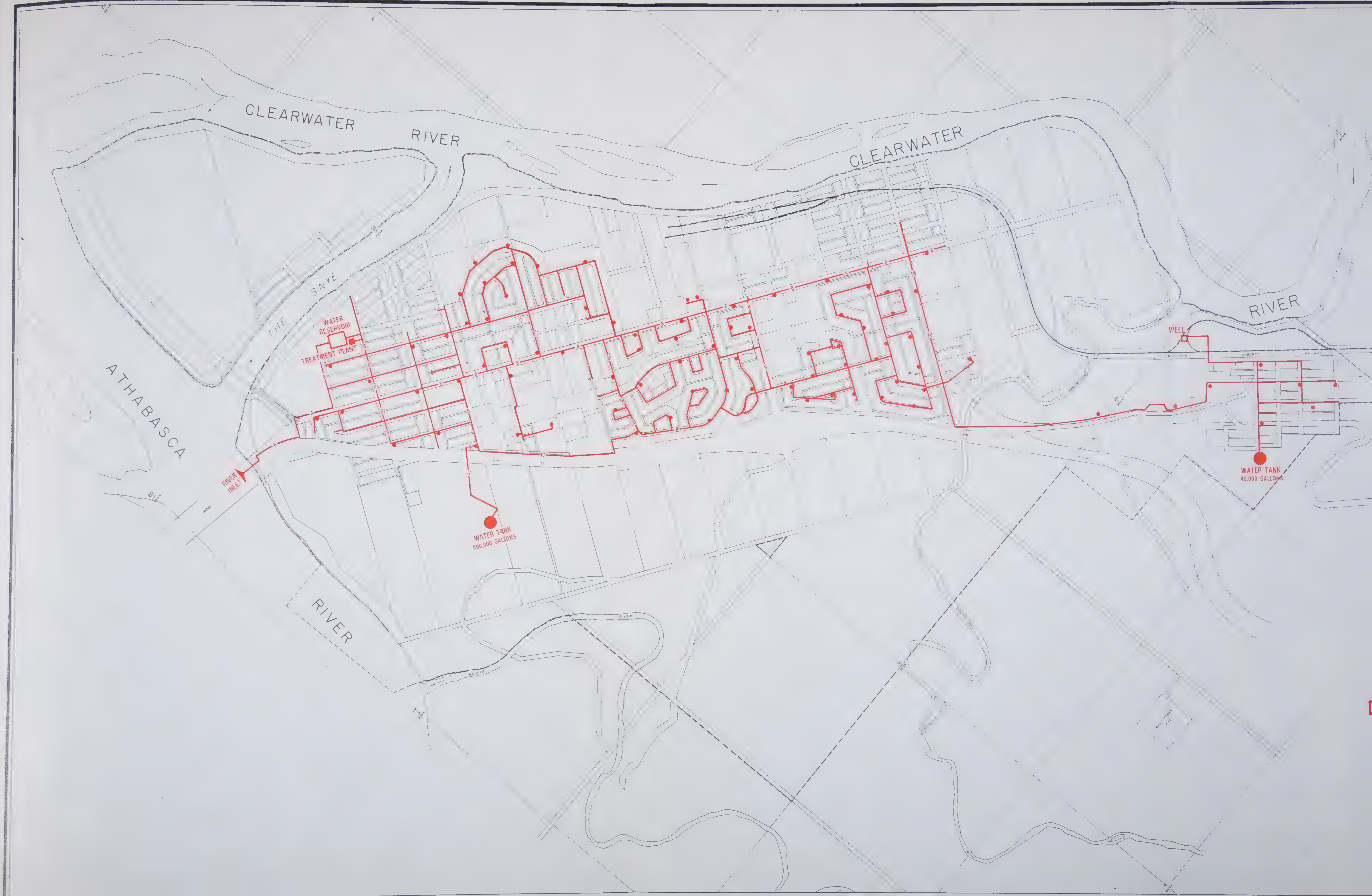
Water is supplied to Fort McMurray from the Athabasca River. The raw water pump has a capacity of 600 gallons per minute. If the town continues to expand as predicted, the raw water intake capacity will have to be increased.

The raw water is pumped from the river into an eleven million gallon pre-sedimentation reservoir. From there the water is pumped into a comprehensive treatment plant. The plant is designed to soften, chlorinate and fluoridate the water as well as remove turbidity, color, odor, and taste.

The treatment plant has a capacity of 888,000 gallons per day which, on the basis of present consumption, is sufficient to provide maximum daily demands for a population of approximately 6,500 (Map 9). The capacity is presently being increased so that the plant will serve a population of approximately ten thousand.

The treated water is pumped from a 40,000 gallon clear well at the treatment plant through the distribution system and into a 500,000 gallon ground storage tank on the plateau south of the town. The tank is capable of supplying water at adequate pressure to all parts of the present townsite. When the town expands, a tank (or tanks) will have to be provided in such a manner to supply sufficient water to the expansion area(s).

The town has a treated water storage capacity of 580,000 gallons. This consists of a 40,000 gallon clear well at the treatment site, a 40,000 gallon tank in Waterways and the main 500,000 gallon tank. The C.U.A. (Canadian Underwriters Association) suggests that a town of 7,000 people has a storage capacity of approximately 1.3 million gallons for fire fighting in addition to one peak day's consumption. The 1969 water consumption records indicate that the average annual per capita per day consumption is approximately 70 gallons. Assuming a


CLEARWATER RIVER
CLEARWATER
RIVER
THE SNYE
WATER RESERVOIR
TREATMENT PLANT
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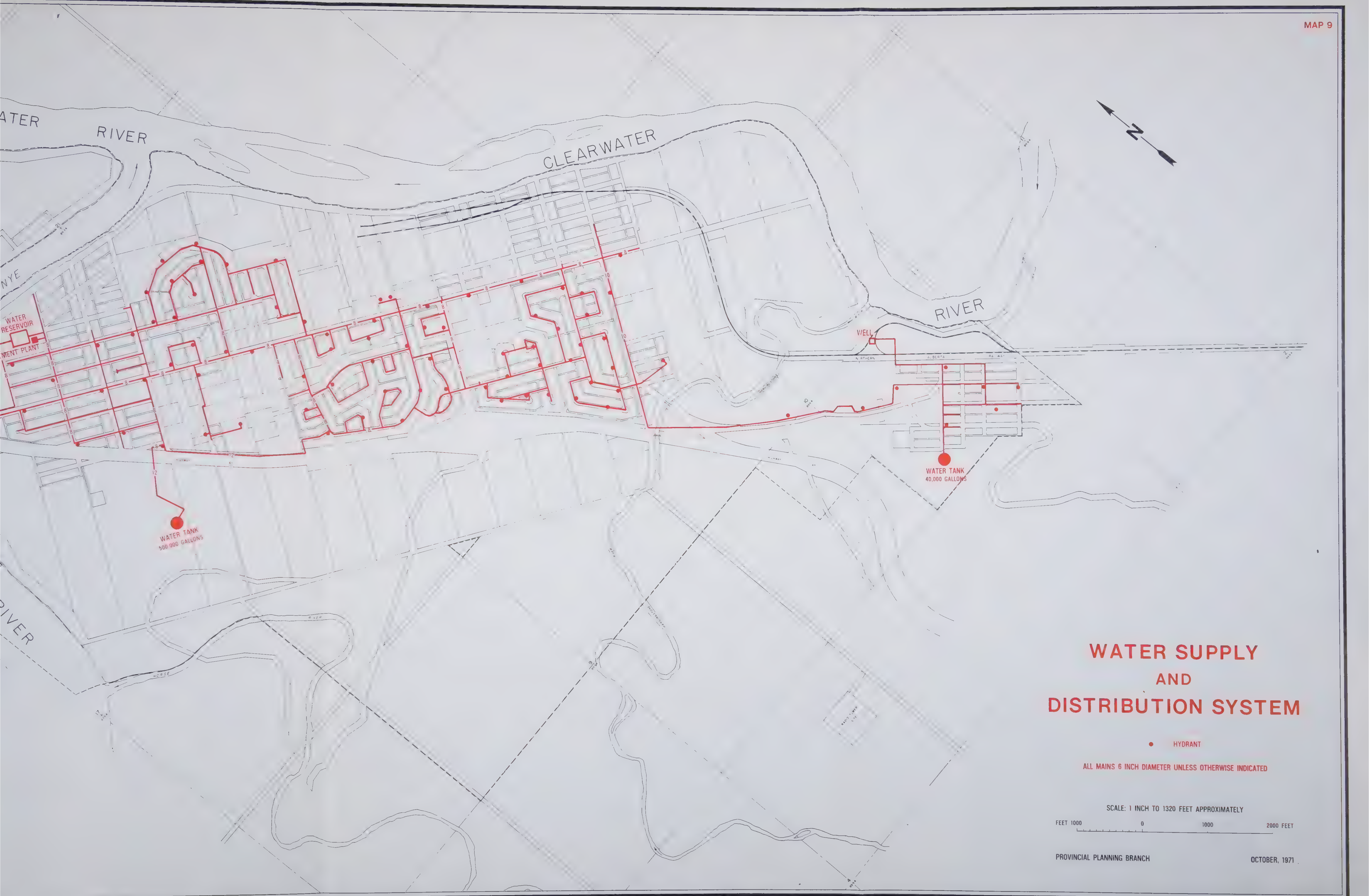
WATER TANK
500,000 GALLONS
WELL
WATER TANK
40,000 GALLONS

MAP 9



WATER SUPPLY AND DISTRIBUTION SYSTEM

● HYDRANT

ALL MAINS 6 INCH DIAMETER UNLESS OTHERWISE INDICATED

SCALE: 1 INCH TO 1320 FEET APPROXIMATELY

FEET 1000 0 1000 2000 FEET

PROVINCIAL PLANNING BRANCH

OCTOBER, 1971

population of 7,000, the ratio of 2:1 for maximum daily demand to average annual daily demand yields a maximum daily demand of 980,000 gallons. This indicates that Fort McMurray should have over 2 million gallons of treated water storage.

The town is deficient in treated water storage. It should have an additional 1.5 million gallons of storage on the system.

During the winter a large volume of water is bled into the sewer system. This must be done in order to prevent freezing in the water lines. Freezing can also be controlled by looping all of the water lines so that there is a constant flow.

SANITARY SEWAGE SYSTEM

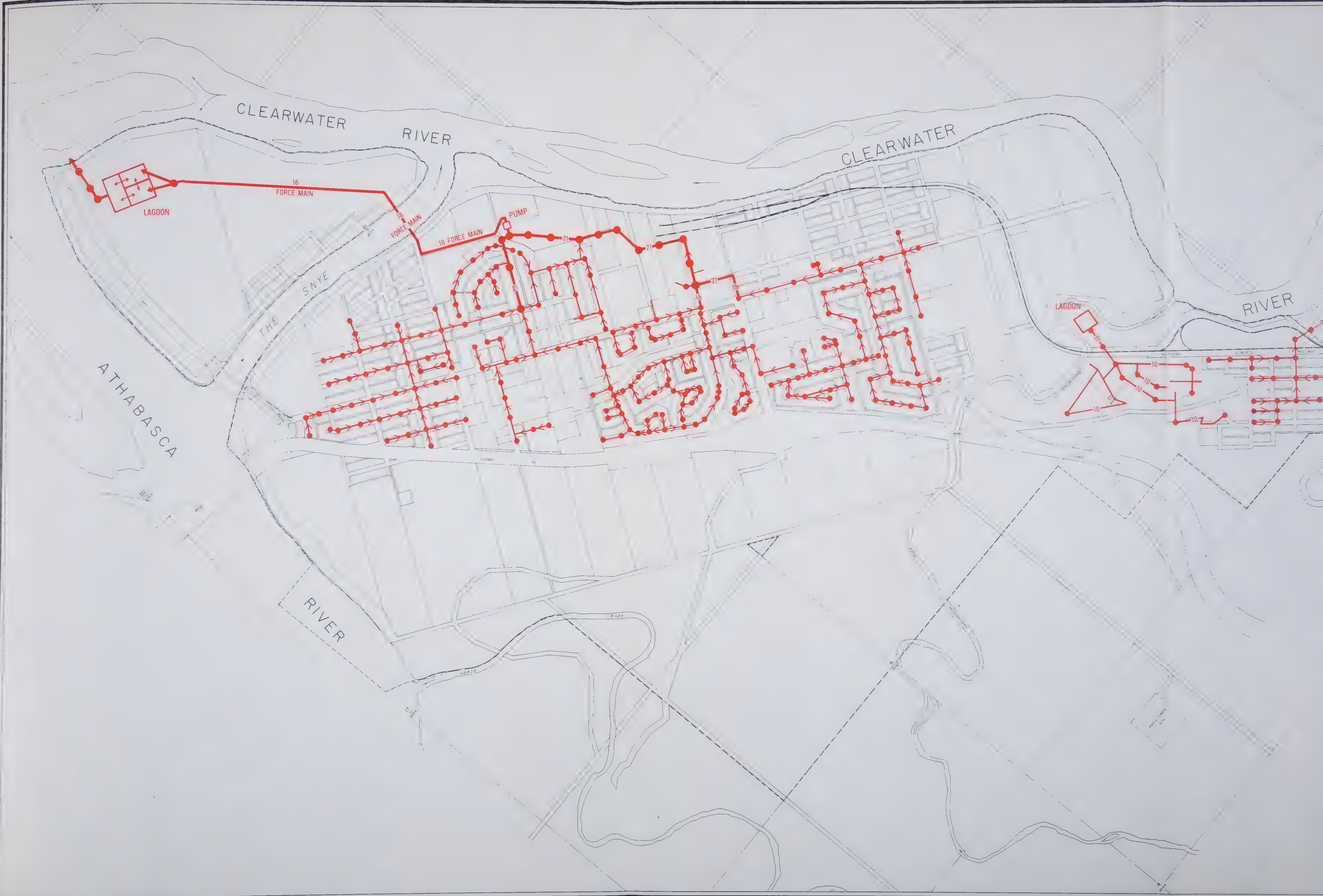
There are three separate collection systems in Fort McMurray (Map 10). Two of the systems are small and serve the Waterways Area. The third system is the basic one for Fort McMurray which will be expanded to serve all of the development in the present townsite.

The treatment facilities consist of 3 lagoons. The two which serve the Waterways Area are small and will eventually be phased out and the sewage will be pumped into the main system. The sewage in the main system is pumped into the lagoon on McDonald Island. The lagoon consists of three anaerobic pits which are 15 feet deep. The first two have a capacity of 2.22 MIG (Million Imperial Gallons) each while the third cell will hold 2.37 MIG. At present standards, this facility can serve approximately 17,000 people.

The effluent from the two lagoons serving Waterways spills continuously into the Clearwater River near Waterways after only a few days detention. The river then flows past the Prairie, McMurray and the golf course. The sewage from Waterways should be pumped into the McMurray system.

SURFACE DRAINAGE

Fort McMurray is served by a partial storm sewer system (Map 11). This means that the runoff from buildings and from the land flows onto the street. Here it is carried as far as practical and then discharged into a limited storm sewer system.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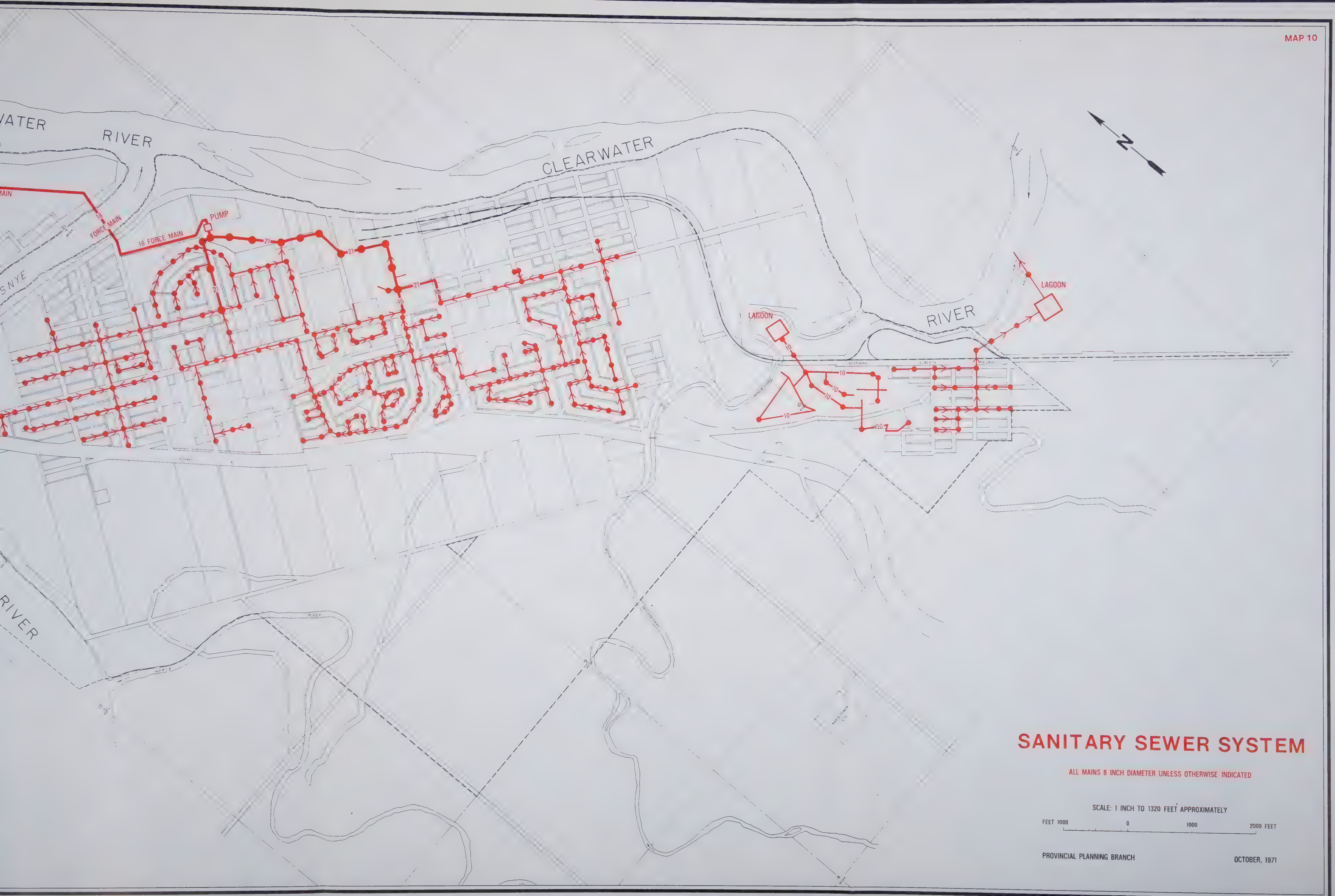
HORSE
RIVER

MAP 10



SANITARY SEWER SYSTEM

ALL MAINS 8 INCH DIAMETER UNLESS OTHERWISE INDICATED

SCALE: 1 INCH TO 1320 FEET APPROXIMATELY

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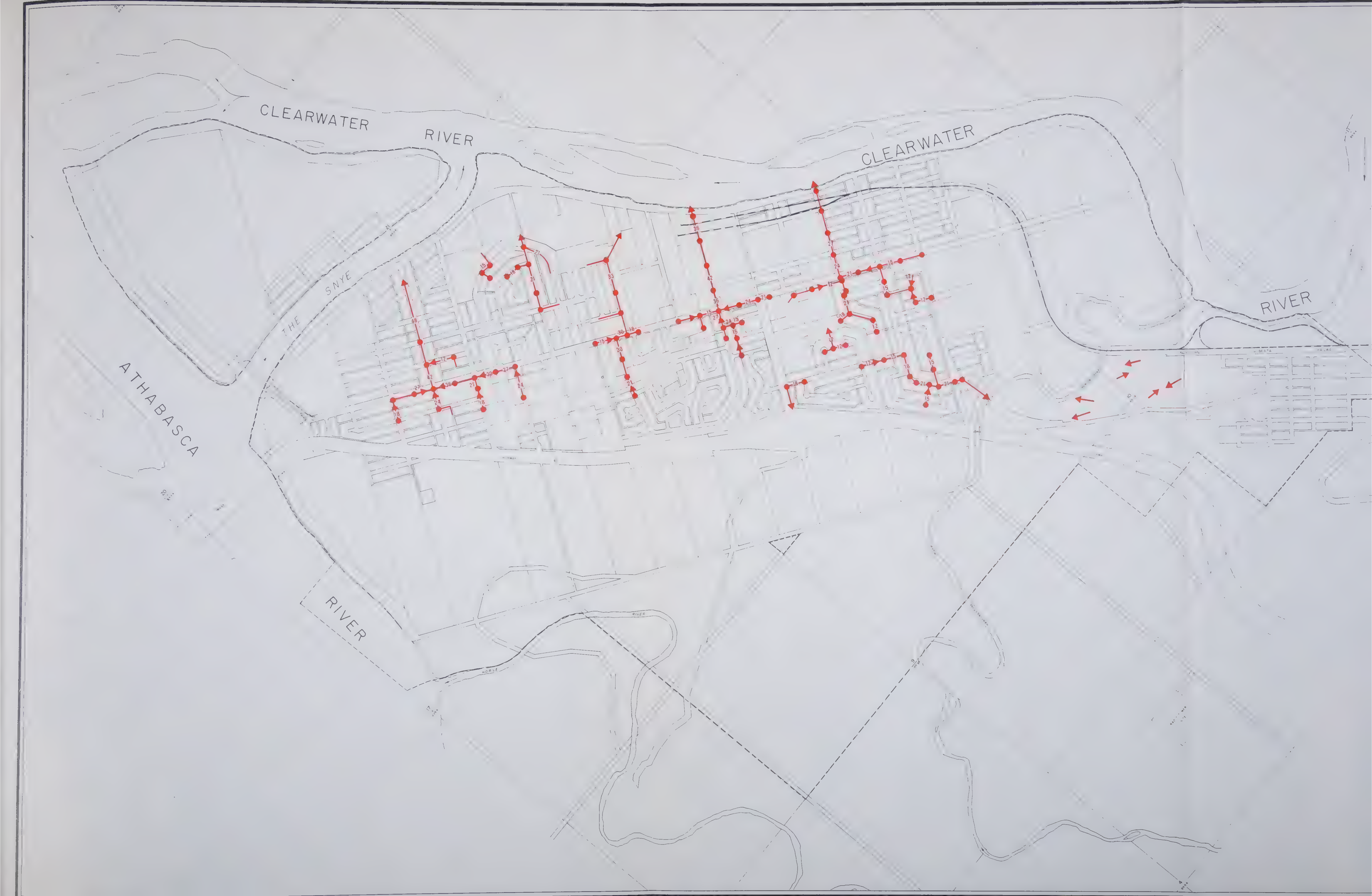
CLEARWATER RIVER
CLEARWATER
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THE SNYE
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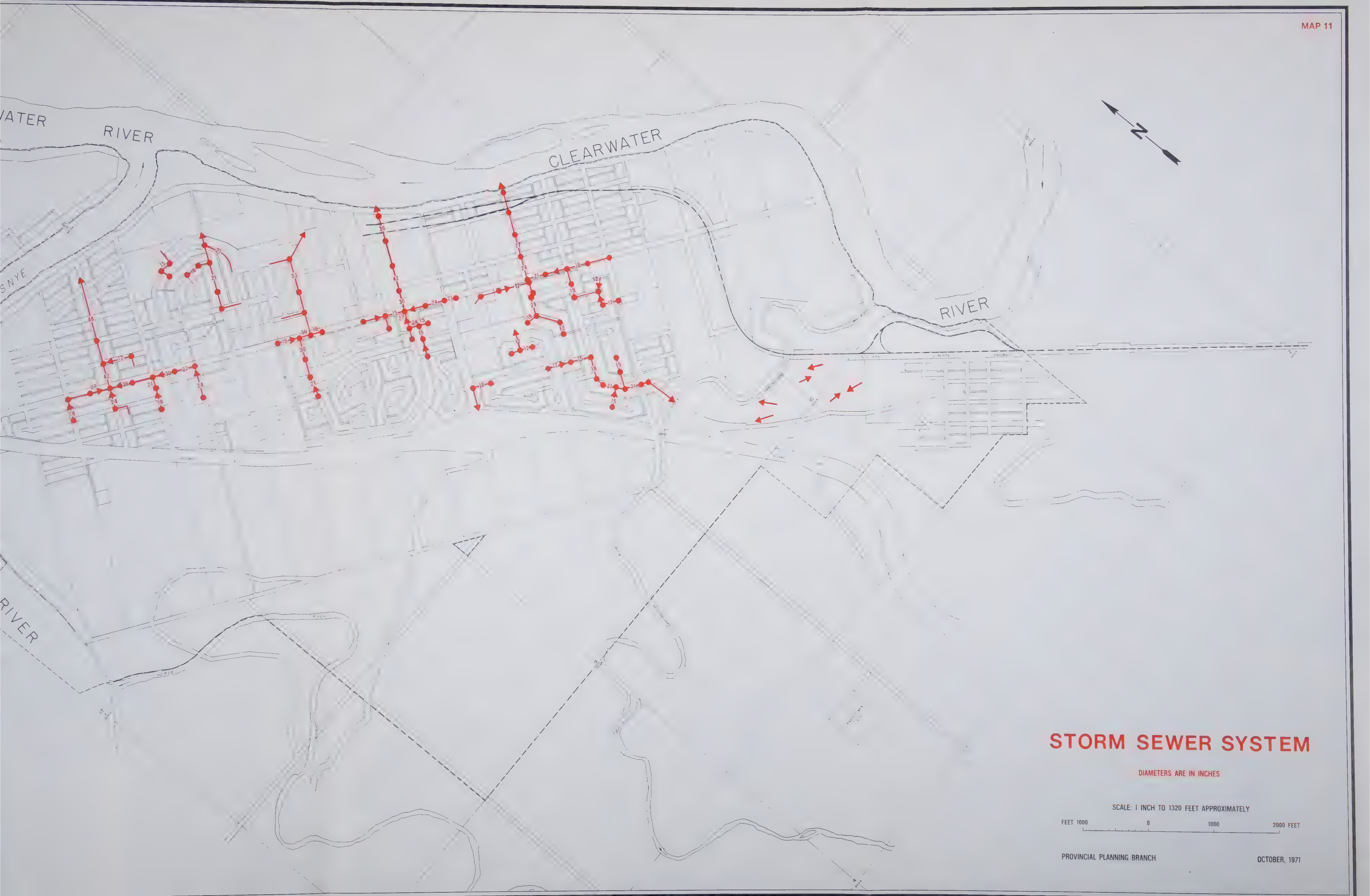
MAP 11



STORM SEWER SYSTEM

DIAMETERS ARE IN INCHES

SCALE: 1 INCH TO 1320 FEET APPROXIMATELY

FEET 1000 0 1000 2000 FEET

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OCTOBER, 1971

OTHER UTILITIES

Natural gas, power, telephone, and television are supplied to the town by Northland Utilities, Canadian Utilities, A.G.T., and A.B.C. respectively. These services can be supplied to any area as required.

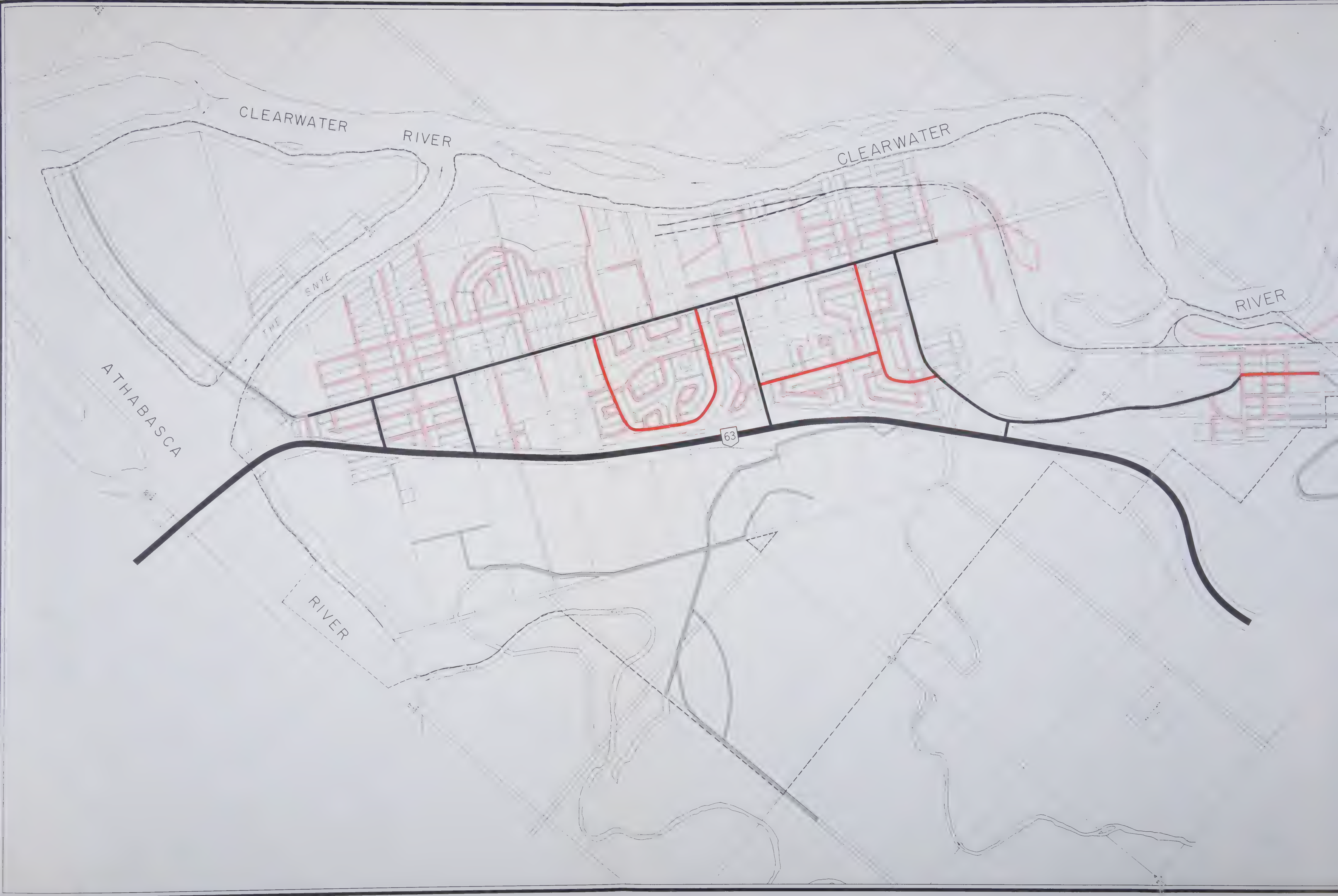
ROADS, STREETS AND TRAFFIC

The New Town of Fort McMurray is located on Highway 63. This highway provides the only access of any consequence to the town. There are four streets that provide access to the developed part of the town from the highway.

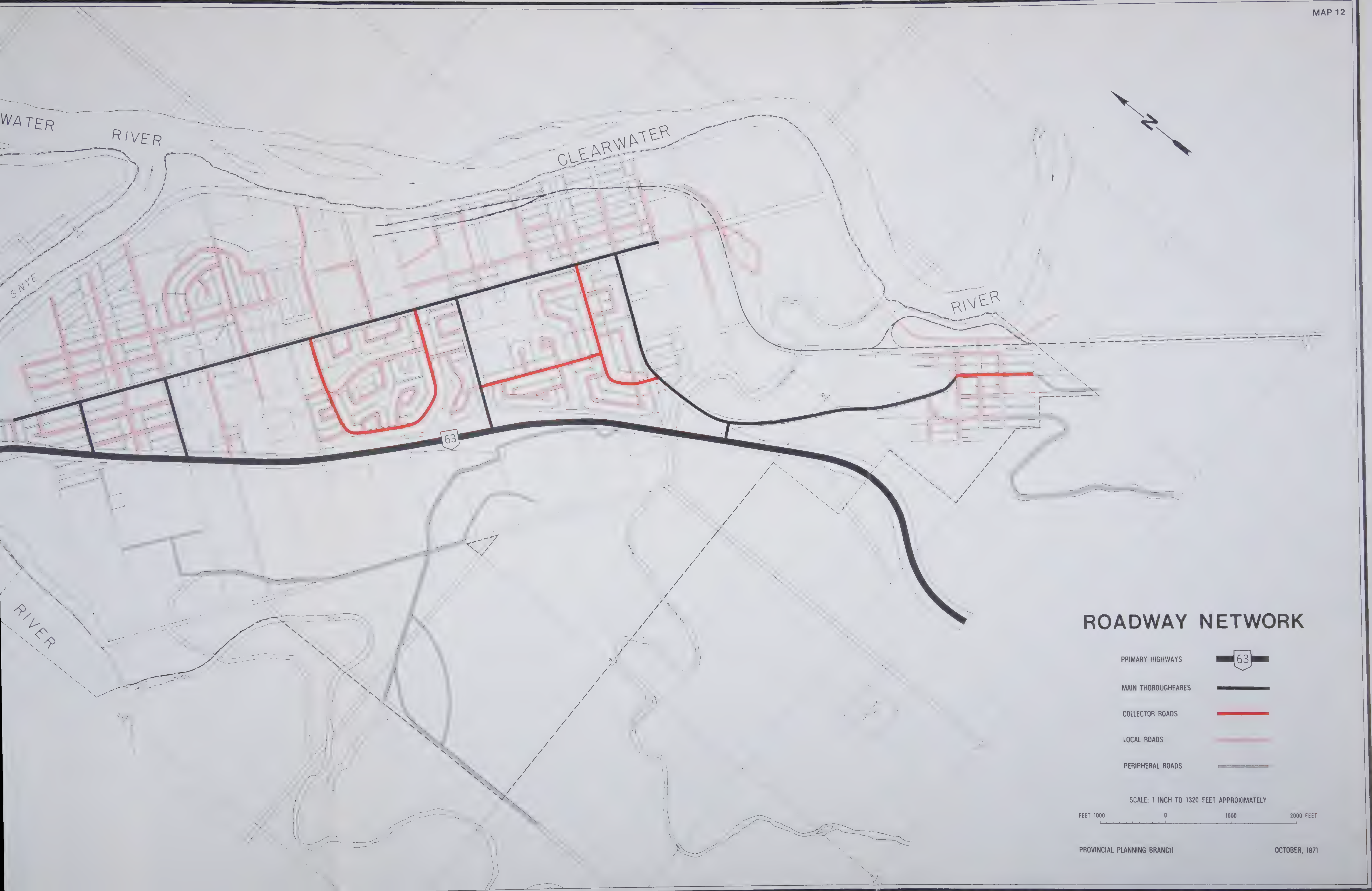
The street pattern in Fort McMurray is primarily a grid based on the original river lots perpendicular to the Clearwater River (Map 12). The older areas of McMurray, the Prairie and Waterways have all streets in the basic grid pattern. The new residential subdivisions such as Poplar Grove, Birch Grove and Clearwater Terrace have curvilinear street design within the main grid system.

All of the major roads and many of the residential streets, especially in the newer areas, are paved. There are still a number of streets within the developed area that are not paved. As development proceeds these streets, and any new ones, should be brought up to the standard of the rest of the town.

In a town the size of Fort McMurray, there is rarely a problem with traffic congestion. The position of the highway and the layout of the town create a pattern that minimizes the possibility of congestion. If future development is concentrated in one area, the traffic may become a problem between the new area and the present town during peak periods. This problem, if it materializes, will have to be dealt with before it reaches serious proportions.


CLEARWATER
RIVER
CLEARWATER
RIVER
THE SNYE
ATHABASCA
RIVER
63

MAP 12



ROADWAY NETWORK

SCALE: 1 INCH TO 1320 FEET APPROXIMATELY

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OCTOBER, 1971

Since the town is so spread out, there is no parking problem. There are adequate parking spaces for the present demand, but as the Central Business District develops some consideration should be given to providing sufficient parking area.

SECTION E

FINANCIAL RESOURCES

The following services have been provided for the residents of Fort McMurray over the past seven years: Water Supply and Distribution System, Sewage Collection and Disposal System, municipal and recreational buildings, equipment (fire trucks, etc.), concrete sidewalks, paved streets, public housing and a dyke to prevent flooding. These services were provided on a prepaid and special frontage assessment basis thereby maintaining a reasonable debt level.

In 1970 the average per capita debt of all towns in the province was $83.32 as compared to the New Town's total per capita debt of $567.26. However, a large number of towns do not provide the high level of facilities that is provided by Fort McMurray.

Since 1965 the New Town has paid the annual interest on the New Town advances, however, due to the debenturing of the advances in 1970, Fort McMurray will be required to pay an additional $94,626.23 in 1971 over the amount paid in 1970 on the general debt. In addition the water supply system will be required to raise an extra $29,477.52 in 1971 to cover the increase in the debt charges over the amount paid in 1970.

It should be noted that the annual debenture debt charges during the years 1965 to 1970 inclusive as shown in the attached statements do not include the annual interest paid on New Town advances.

Over the years the Water Supply System has accumulated an operating surplus of some $55,000.00 which included an operating surplus of just over $8,000.00 in 1970. As the New Town will require extra revenue of approximately $21,500.00 in 1971 for the additional debenture debt charges providing the other revenues and expenditures remain the same as in 1970.

In order to maintain the 1970 levy of debt repayment and using 8% as the debenture interest rate over 25 years, general debt borrowings cannot exceed $3,000.00 for every $100,000.00 of taxable assessment created.

In regard to the water system and using the aforementioned interest rate and term of repayment, any capital expenditure would have to be related to an increase in water revenue, either by users or increased rates, of approximately $100.00 per year for each $1,000.00 borrowed.

The cash position of the New Town at the end of 1970 was very poor showing a net cash deficit of approximately $131,000.00. The New Town must continue to use restraint in its spending in order to build up a net cash asset of approximately twenty-five per cent of the annual tax levy.

In addition it is recommended that the grant from the Provincial Government in respect to the Snye Dyke and at least $100,000.00 of the 1971 Improvement District tax transfer be placed in a capital account to be used by the New Town as a revolving fund for future capital projects. It may be wise in the future to place 40% or 50% of each year's tax transfer in this capital account.

TABLE 19

NEW TOWN OF FORT McMURRAY GENERAL FUND

Year	Population	Real Property Assessment*	Total Mill Rate	Real Property Tax Levy*	Special Assessment		Total Levy	I.D. Tax Transfer	Total Revenue
					General	Water			
1961	1,110	610,878	69	40,841.97	—	—	48,707.26	—	89,752.15
Per Capita		550		36.79	—	—	43.88	—	80.86
1962	1,186	728,549	63.6	48,926.79	—	—	57,676.83	—	110,896.78
Per Capita		614		41.25	—	—	48.63	—	93.50
1963	1,186	750,210	66	48,262.12	—	—	57,944.95	—	101,103.43
Per Capita		633		40.69	—	—	48.86	—	85.25
1964	1,303	777,490	68	52,505.62	5,779.68	6,779.72	75,572.70	—	118,799.26
Per Capita		597		40.30	4.44	5.20	58.00	—	91.17
1965	1,804	1,286,210	68	85,152.27	5,165.93	7,212.48	107,530.18	—	182,353.98
Per Capita		713		47.20	2.86	4.00	59.61	—	101.08
1966	2,515	2,332,100	70	149,754.75	5,438.74	6,163.33	175,142.27	—	300,283.42
Per Capita		927		59.54	2.16	2.45	69.64	—	119.40
1967	3,387	3,858,033	70	269,867.01	5,363.06	6,076.27	297,225.81	—	510,388.85
Per Capita		1,139		79.68	1.58	1.79	87.75	—	150.69
1968	4,984	6,233,100	70	436,317.00	30,661.57	7,116.36	492,312.70	20,000	859,492.85
Per Capita		1,251		87.54	6.15	1.43	98.78	4.01	172.45
1969	5,943	7,603,000	75	568,221.50	33,433.60	7,147.20	629,314.05	120,000	1,105,905.14
Per Capita		1,279		95.61	5.63	1.20	105.89	20.19	186.09
1970	6,132	7,836,340	75	585,722.00	34,972.27	7,147.20	647,643.07	141,880.00	1,280,123.20
Per Capita		1,278		95.52	5.70	1.17	105.62	23.14	208.76
1971	6,681	—	—	—	—	—	—	—	—

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*INCLUDES PIPE AND POWER LINE

TABLE 20

November 4, 1971

NEW TOWN OF FORT McMURRAY WATER SUPPLY SYSTEM

Year	Special Assessment	Total Revenue	Operating Deficit	Debenture Debt Charges	Total Expenditure	Operating Surplus
1961	—	—	—	—	—	—
Per Capita	—	—	—	—	—	—
1962	—	—	—	—	—	—
Per Capita	—	—	—	—	—	—
1963	—	613.49	243.13	—	856.62	—
Per Capita	—	.52	.20	—	.72	—
1964	6,779.72	12,952.57	2,168.68	12,273.13	15,121.25	—
Per Capita	5.20	9.94	1.66	9.42	11.60	—
1965	7,212.48	20,404.70	6,090.92	12,273.13	26,495.62	—
Per Capita	4.00	11.31	3.38	6.80	14.69	—
1966	6,163.33	43,906.82	1,564.18	12,273.13	45,471.00	—
Per Capita	2.45	17.46	.62	4.88	18.08	—
1967	6,076.27	98,601.14	—	*22,179.38	86,005.19	12,595.95
Per Capita	1.79	29.11	—	6.55	25.39	3.72
1968	7,116.36	143,356.22	—	*22,179.38	122,132.01	21,224.21
Per Capita	1.43	28.76	—	4.45	24.50	4.26
1969	7,147.20	159,555.91	—	*33,606.80	144,395.44	15,160.47
Per Capita	1.20	26.85	—	5.65	24.30	2.55
1970	7,147.20	161,902.08	—	*38,448.92	153,856.68	8,045.40
Per Capita	1.17	26.40	—	6.27	25.09	1.31
1971	—	—	—	88,034.89	—	—
Per Capita	—	—	—	13.18	—	—

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*PLUS INTEREST NEW TOWN ADVANCES

TABLE 21

NEW TOWN OF FORT McMURRAY DEBENTURE DEBT

	GENERAL				WATER		
Year	Debenture Debt	Annual Debenture Debt Charges	Net Annual Debenture Debt Charges*	% of Real Property Tax Levy	Debenture Debt	Annual Debenture Debt Charges	Net Annual Debenture Debt Charges*
	$	$	$	%	$	$	$
1961	—	—	—	—	—	—	—
1962	—	—	—	—	—	—	—
1963	114,994.35	—	—	—	160,690.00	—	—
Per Capita	96.96	—	—	—	135.49	—	—
1964	#112,792.98	8,612.53	2,832.85	5.40	#157,656.48	12,273.13	5,493.41
Per Capita	86.56	6.61	2.17	—	120.99	9.42	4.22
1965	#110,467.29	8,702.17	3,536.24	4.15	#154,448.54	12,273.13	5,060.65
Per Capita	61.23	4.82	1.96	—	85.61	6.80	2.81
1966	#205,010.27	8,702.17	3,263.43	2.18	#280,756.14	12,273.13	6,109.80
Per Capita	81.51	3.46	1.30	—	111.63	4.88	2.43
1967	#496,827.87	17,867.37	12,504.31	4.63	#274,719.09	22,179.38	16,103.11
Per Capita	146.69	5.28	3.69	—	81.11	6.55	4.75
1968	#643,542.56	41,178.93	10,517.36	2.41	#483,937.01	22,179.38	15,063.02
Per Capita	129.12	8.26	2.11	—	97.10	4.45	3.02
1969	#649,827.16	50,421.91	16,988.31	2.99	#473,044.96	33,606.80	26,459.60
Per Capita	109.34	8.48	2.86	—	79.60	5.65	4.45
1970	2,445,898.85	56,431.98	21,459.71	3.66	1,032,550.80	38,448.92	31,301.72
Per Capita	398.87	9.20	3.50	—	168.39	6.27	5.10
1971	—	228,563.62	—	—	—	88,034.89	—
Per Capita	—	34.21	—	—	—	13.18	—

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*LESS SPECIAL ASSESSMENT REVENUE #DOES NOT INCLUDE NEW TOWN ADVANCES

PART II

STATEMENT FOR THE GENERAL PLAN

INTRODUCTION

Fort McMurray will either maintain its position as a prominent industrial town, or expand more rapildy to become one of Canada's major resource centres. Population increases in addition to readjustments in land use patterns will either continue to take place at a steady rate or become severely modified. From either view the end of the planning period will bring major changes in the town's physical structure. In an effort to provide a desirable urban environment, it is the responsibility of the General Plan to recognize these changes.

Part I has shown that the developing portion of the town will require the use of additional land and services for expansion. In order to fully utilize the town's resources there is also a need to upgrade the older developed areas. To accommodate these changes the town must provide more roads, public services and utilities. By following a controlled long range plan many of the problems associated with new development will be minimized. It is proposed the following policies will adequately direct the town towards a rational development pattern.

GROWTH OBJECTIVES

To support the anticipated population and distribution in an economic and convenient manner the town must strive towards achieving several growth objectives.

- to accommodate 9,000 to 10,000 people in the immediate urban area, and 5,000 people in the new expansion area
- to allow for the long range expansion of the McMurray area; for a population exceeding the 15,200 high projection
- to encourage and reinforce the continual development of land uses in the manner outlined in the future land use map
- to ensure that new subdivisions for commercial, industrial and residential uses are not potential conflict areas due to land use incompatibility

- new subdivisions must also be safe, attractive, and healthy places in which to live or work

- to allow for a wide choice of land uses with sufficient sizes, while still upholding a policy of compact orderly development

- to make certain enough land is annexed or held in reserve for the orderly and systematic expansion of urban uses for specific time periods when the population so demands

- to develop a system of recreational land uses for both active and passive purposes which best serve the needs of the people: by retaining open space, constructing new facilities, and by encouraging community participation for new recreational programs

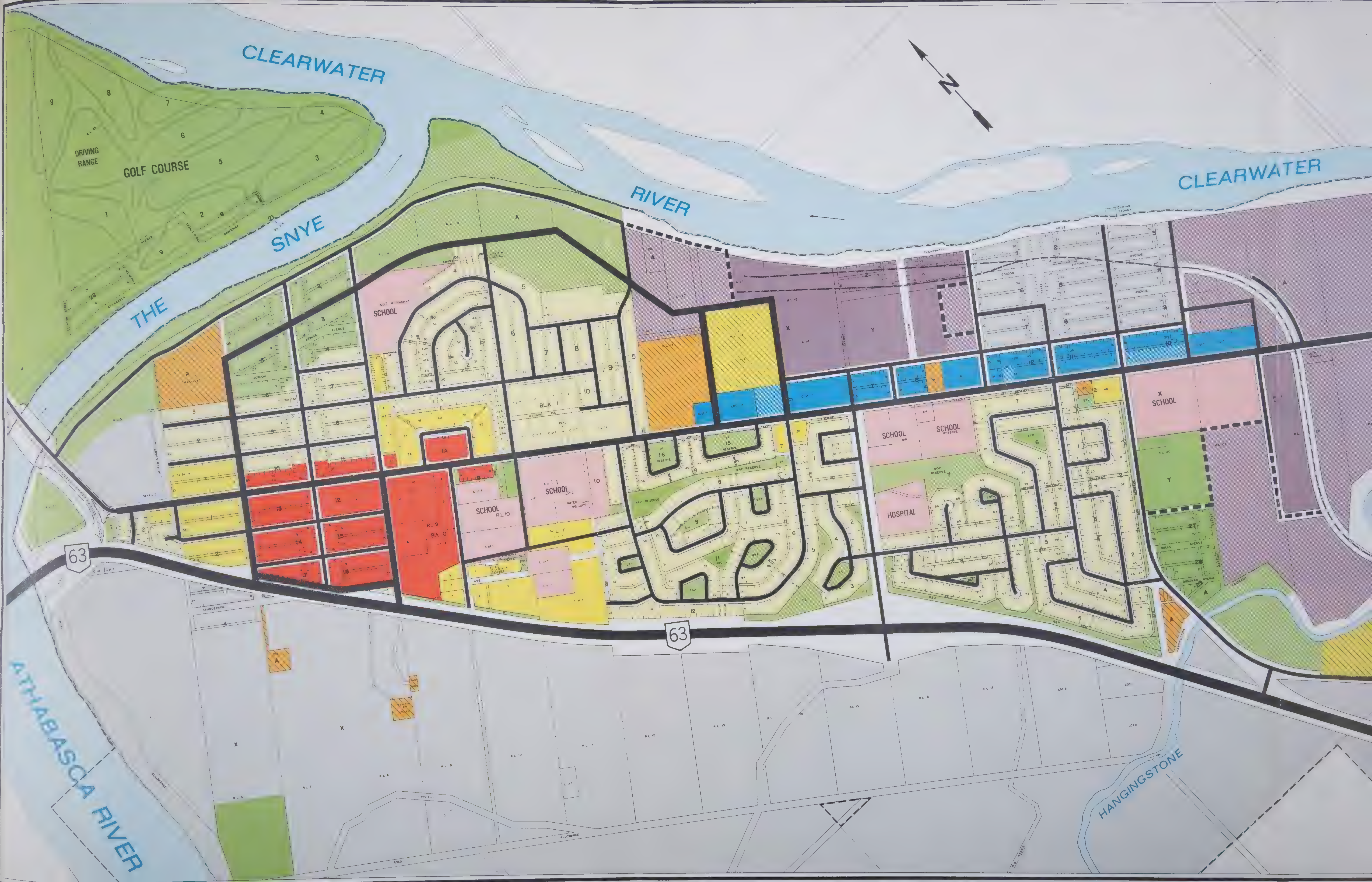
- to optimize the efficiency of the town's water, road and sewer system.

POLICY FORMULATION

The basis for the General Plan stems from matters brought forward in Part I, discussions with the Board of Administrators and expressed opinions from the town engineers and other interested groups. The population projection which is assumed to be reasonably accurate will influence the validity of much of the policy to follow. The future land use plan, Map 8 discloses the final spacial implications of that policy. Control of the plan becomes an administrative task by the passing of a zoning by-law.

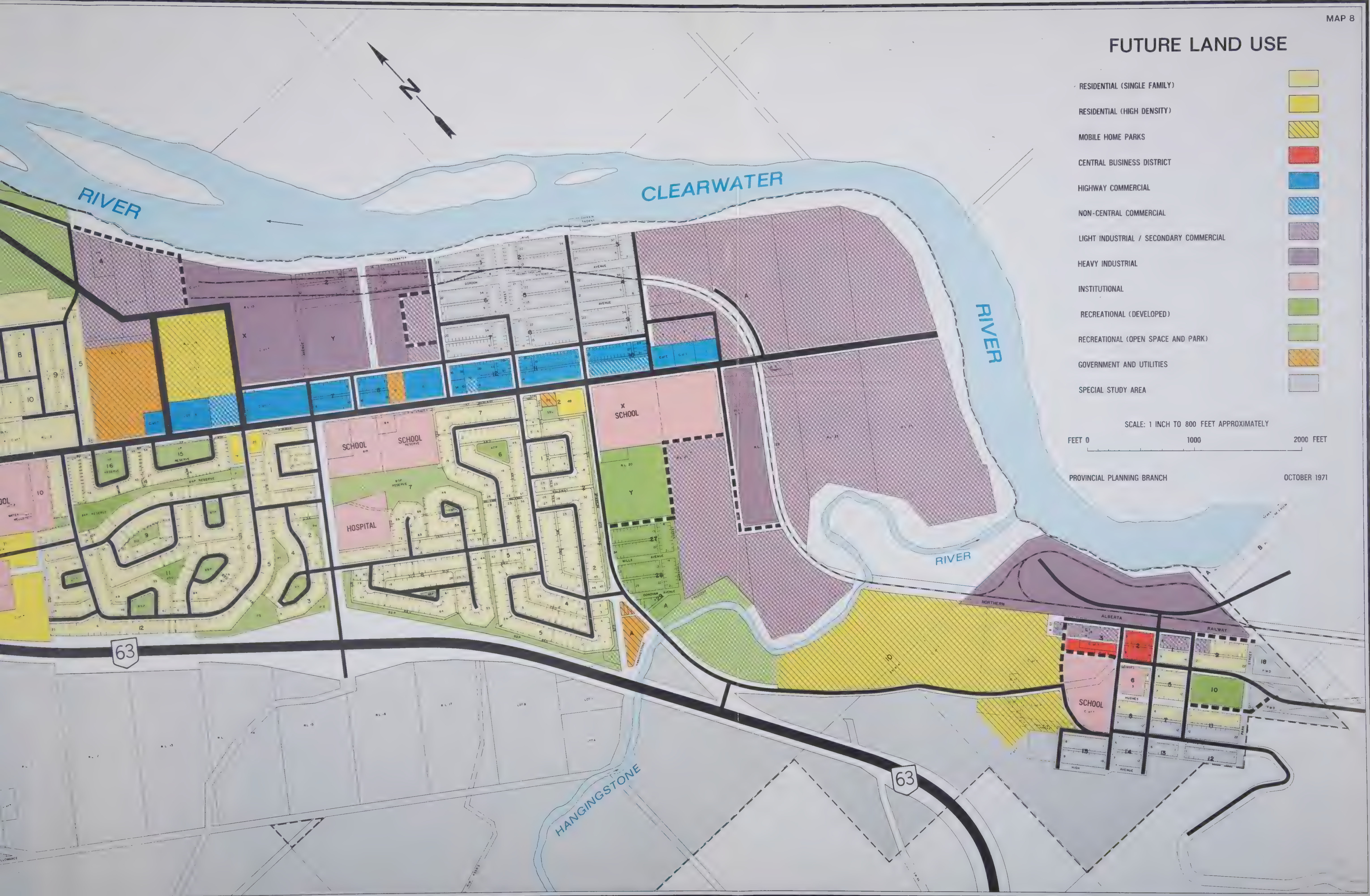
POPULATION PROJECTION (taken from page 9)

	1975		1980
Low Net in-migration	7,853		9,213
Medium Net in-migration	8,241		10,279
High Net in-migration	14,000	(1977)	15,200


CLEARWATER
CLEARWATER
RIVER
THE SNYE
N
GOLF COURSE
DRIVING RANGE
SCHOOL
SCHOOL
SCHOOL
SCHOOL
SCHOOL
SCHOOL
HOSPITAL
63
63
ATHABASCA RIVER
HANGINGSTONE

MAP 8

FUTURE LAND USE



PROVINCIAL PLANNING BRANCH

OCTOBER 1971

B. RESIDENTIAL POLICY

Approximately 100 percent of the dwelling units in Fort McMurray are occupied. There is also a serious shortage of residential lots. The high demand for housing therefore, in well serviced districts presents a critical problem. The unusually high number of mobile homes has only added mounting pressure on land availability. The town has not been able to avoid the haphazard placement of mobile homes on land not designed for that purpose.

Expansion into one of several areas (see Townsite Development Study, prepared by Standley Associates Engineering Limited) outside the town will alleviate much of the pressure. Simultaneously residential infilling for vacant serviced areas should occur in Old McMurray (north and south) which now contain a mixture of land uses.

NEW HOUSING DEVELOPMENT AREAS

As discussed in Part I, Fort McMurray could easily require up to 2,043 new dwelling units for a population of 15,200. The areas immediately west of the Athabasca River (designated 5 and X in the Stanley report, p. 24) are the most suitable for this magnitude of planned expansion. They each contain over 800 developable acres; their location, soils, ease of servicing and drainage characteristics are conducive to urban development. These areas are to be annexed to the town as indicated in the annexation proposal (page 73).

The development of area 5 will commence immediately under the direction of an overall outline plan; this will safeguard the orderly expansion of new neighborhoods. Complementary facilities such as local retail shopping, centrally located schools, open space and recreation areas will be planned for, apart from the residential subdivisions. A permanent mobile home park containing 300 lots will be an important part of the initial stage of development. Plans prepared by the Provincial Planning Branch will show the required amount of land, residential densities, roadway networks, and services. The design will make use of staging concept; a system which ensures that residential occupation will occur economically and conveniently as the need for lots arises.

Other areas have been identified in the Stanley report as possible expansion areas (numbered 1, 2, 3, 4a, 4b, and 6). With regard to the

development of each area, they show an almost similar potential for urban use as area 5. With the exception of zones 1 and 2 they contain over 1,000 developable acres. However, due to excessive off site servicing costs and accessibility problems they cannot be utilized in the present time period.[1]

Even though the majority of the expansion areas will not be developed in the near future, the town must attempt to ensure against premature or conflicting developments in the areas. The town will promote a reserve policy in co-operation with other government agencies having development (or mineral lease) approval authority; particularly with the Improvement District.

EXISTING RESIDENTIAL AREAS

Residential growth will also take place within the present developed area of the town, however, due to lack of space there will be an increasing trend towards multi-unit construction rather than single family. The older residential areas in Waterways, and those areas surrounding the business section are in need of a natural renewal policy. The basic aim will be to encourage infilling of varying types of residential construction on vacant lots which are now fully serviced. Additional lots will also become available with the relocation of trailers to a more suitable location. An unused serviced lot is an extravagant use of land.

The areas in which the town will allow infilling are described in some of the following recommendations.

General Policy

- Under the zoning by-law, provisions will be made to allow for residential infilling in four sections of town:

  (1) North of Franklin Avenue in Plan 616 A.O. (all of Blocks 8 and 9, half of 10 and 11, and parts of 6 and 7) and Plan 1268 N.Y. (Blocks 2 and 3). In this

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[1] Expansion onto areas 4a and 4b would require the construction of a new bridge across the Clearwater River. Areas 1 and 2 are located on the high escarpment and are subject to severe slope instability. Area 3 is the furthest distance from town.

area the 815 foot elevation mark is described as being the developable limit. Construction below that elevation must be conditional.

Permitted Uses: single family housing will be encouraged along with duplex and four plex construction.

(2) All of the lots south of Franklin Avenue in Plan 2072 N.Y. and all the lots, with the exception of Lots 7 to 10 (Block 2) in Plan 3599 N.Y., south of Franklin Avenue.

Permitted Uses: same as previous zone.

(3) That area which takes in Block 1 in Plan 1268 N.Y., Blocks 1 and 2 in Plan 198 A.S., and Lots 7 to 10 in Block 2 of 3599 N.Y.

Permitted Uses: multi-level (high density) apartment structures should be the predominant land use. Other residential uses, such as single family and duplexes will be permitted. This area is ideally located as a high density zone taking full advantage of the proximity to the C.B.D. and main traffic routes.

(4) All of Waterways, Plan 3969 F.T.

Permitted Uses: same as zones (1) and (2).

- The continued residential use of isolated lots in non-residential zones must be discouraged. For example, all residential structures located in the proposed C.B.D. and those in the Prairie (north of Franklin) would become non-conforming.

- It is recommended that vacant lands surrounding the cemetery sites be used as specific areas for multi-level (high density) residential structures. There is a sizable demand for rental accommodation; as the town continues to grow the need to accommodate married couples without children, widowed persons, elderly retired, unmarried workers, and semi-permanent will also increase.

- The portion of land lying north of Franklin Avenue (15.5 acres) in River Lot 5 is well situated for public housing. It is recommended the town meet with engineers, land owners, and Alberta Housing to determine the feasibility of a public housing

project. The town retains 395 (1,250 people) substandard residences. A good portion of these should be demolished in favor of good quality row housing.[2] River Lot 5 will remain as a special study area.

- A suitable quality of building construction shall be enforced under the National Building Code.
- The parcel of land (1.48 acres) located at the south-west corner of the intersection at Franklin Avenue and King Street East, will be zoned for residential; high density.

C. COMMERCIAL POLICY

The development of Fort McMurray's commercial areas should advance concurrently with the demand for commercial services. With an increase in income combined with an enlarged effective trading area the market potential for business should also expand. Should Fort McMurray expand to 15,200 (1980), as forecasted in Part 1, the total requirement for commercial land would reach 57.4 acres (including secondary commercial acres). Therefore, provisions must be made for 32 additional acres. The future availability of such land must not proceed solely in terms of 'extending' present land uses; emphasis must be placed on the quality of the commercial environment. The basic aim of the General Plan is to harness the total potential trading area with two views in mind, land use efficiency and shopping convenience.

To achieve an orderly and economic pattern of commercial development it is advised that specific commercial areas be identified for certain types of development. The commercial areas shall be defined as follows (Map 8).

[2] A sizable expenditure for servicing is expected in developing River Lot 5. A lift station large enough to serve 15.5 acres of public housing and costing approximately $25,000 is necessary to discharge sewage into manhole #134 (located near end of Fraser Avenue). In view of this, River Lot 5 will not likely be developed until a new trunk sewer (servicing the C.B.D. zone) is constructed.

- Central Business Uses and Non-Central Retail Sales
- Secondary Commercial Businesses and Services
- Highway Commercial
- Local Commercial Districts

CENTRAL, NON-CENTRAL RETAIL SALES AND OFFICES

- The consolidation of approximately 10 additional acres of land for a central business district (C.B.D.) shall take place as illustrated on Map 8 .
- Only uses specified as permitted or conditional (as outlined in the draft resolution) shall be allowed in this area.
- Development of the area will follow a comprehensive design which treats the site as one interrelated unit. The arrangement of buildings, roadways and services will be placed with specific regard as to how they fit into the general architectural scheme. The use of malls and heated (covered) walkways should be a part of the plan to ensure climatized conveniency. It also ensures both a high density and a high standard of development.
- The ability of the C.B.D. to serve as an effective focal core, will largely depend on certain non-commercial uses such as parks, public halls, government offices, cultural facilities, and medical clinics.
- The Provincial Planning Branch will undertake a special C.B.D. study which will be presented in conjunction with the General Plan. The study will aid the Board of Administrators to adopt a C.B.D. plan. It will provide adequate control for the progressive growth of the C.B.D. area.
- A comprehensive C.B.D. scheme should provide the following facilities and amenities:

(a) A compact yet spacious form (with sufficient off-street parking space). The use of multi-storey buildings.

(b) Many linked establishments within easy walking distance of each other.

(c) Uses which do not require a central location should not be permitted.

(d) The design must be economically feasible; construction must progress with demand. A high quality of workmanship and materials will be stressed.

(e) Provide sufficient space to encourage the office and professional function to locate in the C.B.D.

- Two isolated sites, functioning as non-central (C.B.D. type) retail areas are to be reserved for small commercial outlets selling necessity items for daily consumption. They will not be allowed to expand beyond the limits as indicated on Map 8 . Any substantial expansions should be channelled into the C.B.D. zone.

(a) Park Plaza Shopping area, located at the Alberta Street/ Franklin Avenue intersection.

(b) The Waterways' commercial zone, which totals 2.40 acres of land abutting both Railway and Bulyea Avenues.

SECONDARY COMMERCIAL (titled CII in Part I)

- Several large sites, separated from the main shopping and residential zones, are to be reserved for secondary commercial, service business, and light industrial activities. These sites will best accommodate activities which require the type of space for warehousing, open storage yards, heavy machinery sales and repairs, service shops and truck traffic. This type of land use would normally disrupt the visual interest and compactness of the central area.

- It is recommended that a primary commercial/industrial reserve zone should be developed on the site containing 29.43 acres (including streets) lying north of Manning Avenue between Queen Street and Marshall Street.

  (a) Development of this site will follow a comprehensive plan, utilizing a new road system to facilitate good access. Proximity to rail immediately north offers an attractive location feature. The recent replot undertaking at the east end of Northern Transportation's property (off Queen Street) will provide the push towards a total development scheme.

  (b) The scale and timing of the development will follow the town's growth pattern.

  (c) Permitted uses within this zone will be free of noxious odors, gases, smoke, and dust. Excessive noise and vibrations should be controlled or not permitted.

  (d) This area is to remain as a special study zone.

- Four remaining areas are to be protected as potential commercial/industrial zones. Uses such as storage etc., may be permitted.

  (a) Approximately 22 acres of land lying north of the Lands and Forests maintenance yard (in River Lots 13 and 14).

  (b) The 132 acre flood plain site at the extreme east end of the Prairie.

  (c) An area totalling 29 acres, bounded by the Hangingstone to the south and the Recreation Centre/Beaver Lumber site to the north.

  (d) Two elongated parcels of land abutting Railway Avenue in Waterways, and totalling 2.96 acres.

HIGHWAY COMMERCIAL

- Highway Commercial uses, such as drive-in restaurants, motels, and service stations which benefit mainly from motoring clientel will be directed onto land fronting Franklin Avenue between the west boundary of River Lot 14 and the railway (east). Large volumes of traffic are expected to enter the town via King Street; this will provide a strong attraction to future business location in the zone.

- Regulations dealing with the appearance and quality of construction of buildings will attempt to preserve high standards. Commercial strip development, due to inconsistent controls often takes on a generally unpleasant appearance.

LOCAL COMMERCIAL DISTRICTS

- Sites for neighborhood shopping complexes, on a much smaller scale than the Park Plaza for example, and corner store locations will be reserved in the detailed layout of the new expansion areas. This type of development may also jeopardize the success of the C.B.D. Caution must be exercised in restricting the premature development of shopping outlets in the expansion area.

D. INDUSTRIAL POLICY

The construction of additional oil extraction plants in the McMurray region will create an enormous by-product potential. However, the full extent of such a potential will remain uncertain until 2 to 5 years following the production phase of the mother plant. Uniform oil production must be firmly established subsequent to any major investment in the subsidiary plants. Should the source plant reach economic stability, the immediate impact (estimated for the period 1978-1981) would bring the following types of by-product industries; heavy minerals production (zirconium, titanium, iron), metallurgic fabrication (foundry for metals casting), service industries such as glass, pottery and building piles, mechanical components for conventional oil production and petro-chemical products.

In light of such a potential, industrial policy over the coming ten years should attempt to direct industry to lands particularly suited for that

purpose. The effect noxious industry may have on nearby residential uses certainly dictates against using the existing townsite. Emissions such as smoke, odors, dust, and gases from plants located in the river valley could become easily trapped due to climatic changes (thermal inversions, etc.). It is advised therefore, the proximity of residential or future residential land should determine the location of noxious industry.

Recommendations, which follow, further substantiate an "outside location" policy.

- Sites that are both extensive and developable will be reserved in an area lying west of the Athabasca River, somewhere between the bridge and the G.C.O.S. plant.
- The question of administration (management of an industrial complex) and servicing is important. The town has no jurisdiction outside its corporate limits, and annexation of land lying perhaps ten miles out appears uneconomic; therefore, co-ordination must be sought with the Improvement District for workable alternatives.
- To draw industry into the area, suitable access to the Athabasca River and a well maintained roadway must be provided. The installation of utilities (gas, power, etc.) must be predetermined. Should rail line linkage (with the extraction plants) materialize, high priority must be given for a line running through the industrial zone.
- Further recommendations for an industrial zone will be provided by the Provincial Planning Branch as a separate study. An internal layout scheme will be shown, emphasizing the distinction between light and heavy uses within the zone.
- Within the townsite, boundaries surrounding the three main industrial areas (marked heavy industry, Map 8) must not be allowed to expand. The town is advised against allowing any expansion or additional construction of large scale industry associated with the present industrial uses in the townsite.
- Provision is made (see Part II Commercial Policy) for some light industry in the townsite; permitted uses in this zone, as previously stated, should be free of all nuisance emissions.

E. PROVISIONS FOR EDUCATIONAL GROWTH

There is a strong possibility, 109 additional classrooms will be required by 1980; using the low projection, thirty-six may be needed. Part I has also shown that the maximum demand for new school land could reach thirty-two to thirty-seven acres by the end of the planning period. The town cannot authorize the construction of education facilities, however, by enforcing land reserve policies, it can ensure that suitable space will be set aside for future schools.

LOCATION REQUIREMENTS

With the exception of the St. John's and Peter Pond schools, expansion of present facilities cannot be achieved in view of site limitations. At the same time, school authorities are immediately faced with the problem of providing new facilities.

- It is advised the existing townsite should continue to hold two reserve parcels for school construction; (1) the nine acre parcel in the Clearwater subdivision; and (2) the Waterways' site.

- School facilities on developed school sites should be expanded wherever possible. The two schools affected by this policy (St. John's and Peter Pond) should act now to safeguard future expansion with the consolidation of vacant land surrounding them.

  (a) Peter Pond should make full use of Block 1 (5789 N.Y.) combined with the 2.94 acres lying immediately east (Block 10 in 4386 N.Y.). The total site size would be 12.18 acres.

  (b) R.C. Separate School District #32 has title to the parcels housing St. John's and a third lying to the north. The school could conceivably expand on a ten acre site with the consolidation of the three parcels.

- The immediate requirements for a high school and additional school facilities (should rapid growth return) will be met in

the new residential areas across the Athabasca River. A reserve zone, centrally located, will occupy approximately forty acres of land and become part of the total development plan. The site will provide adequate space for an "education complex"; a common area emphasizing multiple use for either the public and separate system. A portion of this land, will be administered by the town for structural recreation facilities, such as curling, ice hockey, baseball, etc.

- The town should not permit encroachment of objectionable developments (large volume retail, heavy or light industry, etc.) in the near proximity of lands used as reserves for education facilities. The town is advised to restrict any new structural development, other than for public or quasi-public purposes, on vacant lands adjacent to school sites.
- Requirements for the growth of the Alberta Vocational Centre can be met by expansion of existing facilities onto the 9.04 acre parcel directly east. (Map 8)
- Providing that high school requirements are immediately met (by means of expanding Peter Pond or building an entirely new site) and two new elementary schools are added, the town will have sufficient classroom space to accommodate the low population projection of 10,013. This figure includes the trading area. The high projection 16,300, will be met with new facilities constructed in the new residential expansion area.

F. PARKS AND RECREATION POLICY

The past few years (1969-1972) have shown that park and recreation planning in Fort McMurray is a sensitive subject among the town's people. They have voiced overwhelming concern in their desire to preserve land with recreation potential. Considerable interest has also been shown towards physical recreation (particularly team sports) and organized service clubs. This attitude is indicative of future needs and priorities, and should form the background from which policy is formulated.

This General Plan, however, cautions against providing "excessive" benefits to selected user groups at the expense of the total tax

base. Therefore, along with physical recreation, the town will allow for the provisions of adequate facilities for social development, artistic/creative recreation, and audience entertainment; all of which are essential recreational needs.

Part I of the analysis has identified an excessive availability of developable park and recreation land in the town and surrounding area. The General Plan (Map 8) provides for the immediate reservation of desirable land, insuring that the demands of well over 16,000 people can be accommodated. The Plan also concurrently advocates a policy of environmental protection of the town's physical resources (air, water, soil and plants).

RECREATION

MacDonald Island: The developable portion of MacDonald Island be reserved as a site capable of facilitating an "open air" park and recreation complex. A feature of this complex, will be the construction of the only major building recommended, a multi-purpose community centre. The surrounding landscape will have sports fields, picnic facilities, playgrounds , perhaps a stadium and the eventual extensions of the golf course.

(a) The growth rate of the town will determine economic feasibility and the degree in which the complex will be utilized. Should the town continue to stabilize a careful staging process is advisable in efforts to maintain a reasonable budget. However, with rapid growth and new industry, the town could more readily encourage public and private sectors to help finance and staff the projects for earlier construction.

(b) Should Syncrude proceed with the extraction plant, the initial stages of the project will commence at such a time the new plant reaches uniform production.

Recreation Centre: Expansion into Blocks 27 and 28 off King Street, is estimated for the middle of the planning period. This area (Map 8), along with the Hangingstone bend will be zoned recreation.

(a) The town will continue to attempt the restoration of a historical museum in Block 28.

(b) The community hall stands as the only public hall available. It will require expansion with added use. Additional floor space will be added if a new community centre complex is delayed.

(c) A new outdoor skating rink is recommended for the community centre, should rapid growth in the town occur.

Expansion Zone: Approximately 10 acres of the 40 acre education reserve zone (stated under education policy) will be used for recreation upon the growth of new neighborhoods across the Athabasca River. The needs of perhaps 5,000 residents will necessitate new recreational facilities. The following features are proposed:

(a) Covered skating rink, heated change rooms and natural ice.

(b) Encourage the construction of a curling rink; 6 sheets.

(c) Several ball fields .

(d) Tennis courts.

Waterways: An attempt will be made at preserving Block 10 (presently occupied by the Legion) as a park/recreation facility. Upgrading the functions in Block 10 is urgently needed; i.e. tot lot, and ball diamond. The town should budget towards purchasing Block 10, as a step towards rehabilitating the district.

- Unlike the Poplar and Birch Grove subdivision, children's play areas are non-existent in the new Clearwater subdivision. The town will provide a tot lot on the large school reserve parcel (north-east corner) of the Clearwater plan. Space standards which require the use of land for tot lots will not be allowed to break down. The Poplar Grove design (south of Franklin) stands as a good example.

PARKS AND OPEN SPACE

- An area not exceeding 3 acres (or as designated in the C.B.D. plan) and located within Block 12 (in the C.B.D. zone) will

be reserved for a central park. The site could be developed over several years as funds become available. It must have aesthetical quality.

- Land lying adjacent the Snye (between the bridge and the east boundary River Lot 12, as shown on Map 8), will be held as general urban reserve.

- The town will adopt an environmental protection policy, particularly for areas across the Athabasca River and south of the highway surrounding the "escarpment". The natural state of slopes and stream banks must not be disturbed due to the damaging effects of erosion. Policy must also prevent the pollution of these areas through unnecessary dumping, littering , or industrial waste disposal.

GENERAL

- The multiple use of school facilities, particularly for indoor recreation helps to eliminate the cost of recreation. Rather than construct duplicate projects, users will be encouraged to fully utilize school facilities.

- More emphasis should be placed on using and developing school yards for outdoor recreation; playfields, ball diamonds, and tot lots.

- The many service clubs and organizations in Fort McMurray should be actively and collectively involved in planning and developing parks and recreational facilities. Apart from having a citizen planned system, problems of finance and staff become less prominent.

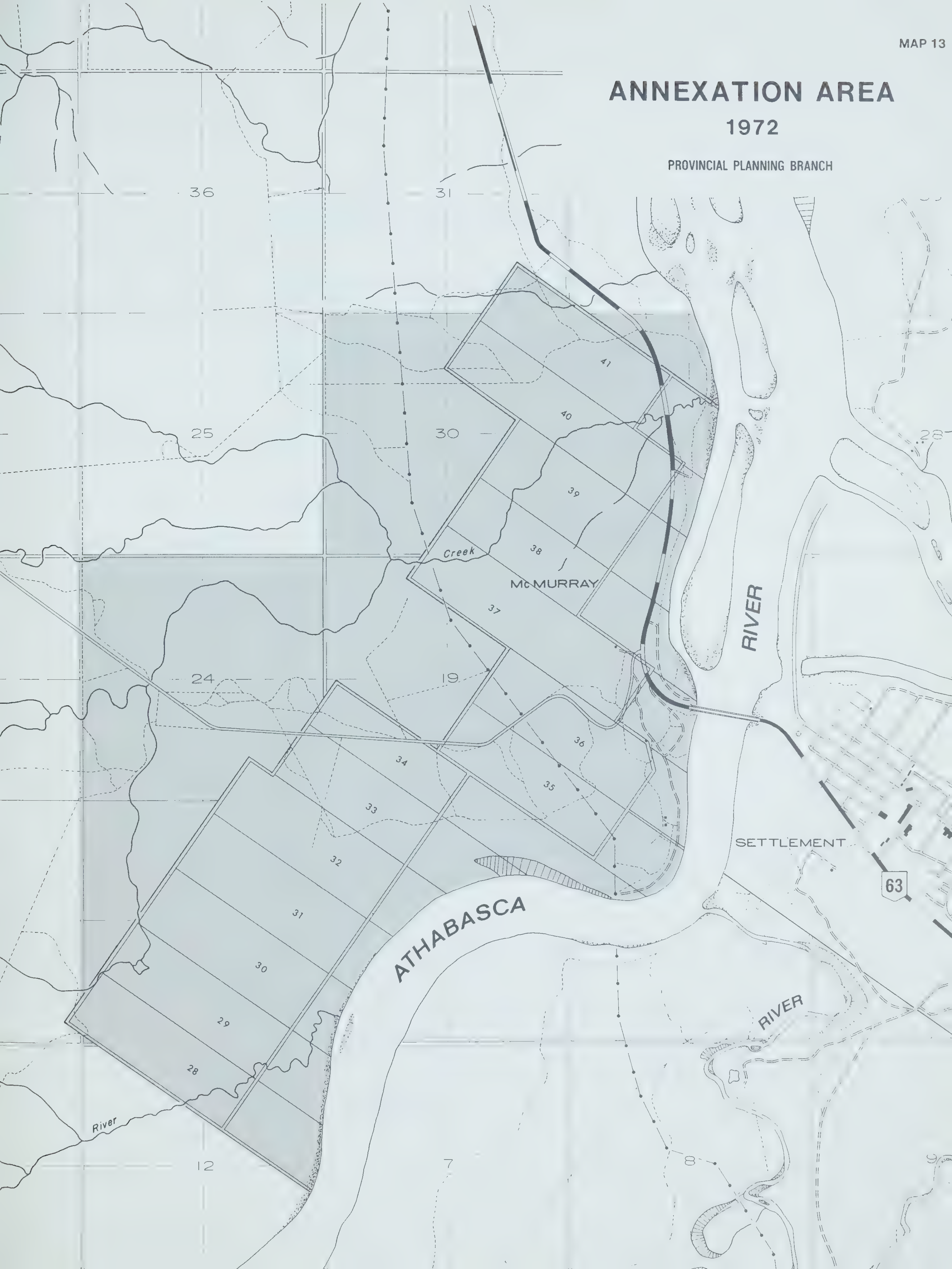
G. PROPOSALS FOR THE ANNEXATION OF NEW AREAS TO THE TOWN OF FORT McMURRAY

- All of River Lots 28 to 41, inclusive, as shown on McMurray Settlement Plan 55, lying to the west of the left bank of the Athabasca River.

ANNEXATION AREA

1972

PROVINCIAL PLANNING BRANCH



- All of fractional sections 13 and 24 in township 89, range 10, west of the fourth meridian.

- All of fractional sections 19 and 30 in township 89, range 9, west of the fourth meridian.

- All of fractional section 29, lying to the west of the left bank of the Athabasca River in township 89, range 9, west of the fourth meridian.

- All of the road allowances contained within and adjoining the above described lands.

The areas described above are illustrated on Map 13. The following information was used to aid in clarifying the existing boundaries of the town.

CLARIFICATION OF BOUNDARIES OF THE NEW TOWN OF FORT McMURRAY

1. River Lots 1 to 24, inclusive, and River Lot 27 in McMurray Settlement in township 89, range 9, west of the fourth meridian, including all subdivisions of such River Lots and all road allowances running through or bordering on such River Lots.

2. That part of section 10, township 89, range 9, west of the fourth meridian, which lies south of the north bank of the Hangingstone River and west of the west bank of the Clearwater River, excepting thereout legal subdivisions 3, 4 and 5 of the said section 10, together with all road allowances adjoining the said part of the said section 10.

3. That part of the north-east quarter of section 3, township 89, range 9, west of the fourth meridian which has been subdivided by Registered Plan No. 3969 E.T., together with the road allowance east of the said part of the said quarter. (Description taken from Proclamation in Gazette, January 15, 1949.)

4. All of River Lots 25 and 26 on Settlement Plan 52 known locally as MacDonald Island.

5. The fractional north half of section 9, township 89, range 9, west of the fourth meridian.

6. The fractional south half of section 16, township 89, range 9, west of the fourth meridian.

7. The east half of section 17, lying east of the right bank of the Athabasca River and north of the right bank of the Horse River.

8. All road allowances within and adjoining the above described areas of parts of 4, 5, 6 and 7.

9. That water channel called "the Snye", bounded on the west by the right bank of the Athabasca River, on the north by the island, on the east by the left bank of the Clearwater River, continued across "the Snye" to the left bank of the Clearwater River on the island, known locally as MacDonald Island and on the south by the northerly limits of the McMurray Settlement.

H. CAPITAL BUDGET AND PROGRAMMING

A General Plan is not complete without the guidance of a determined course of action for the many policy resolutions introduced in this study. Therefore, a long term budgeting and plan implementation scheme will be carried out to ensure that the development and capital improvement of the town will be undertaken in an orderly and economic manner. The capital budget however, will not be included in this analysis. It will be presented in the form of a separate document, to the Board of Administrators following final approval of the recommendations in this study.[3]

The capital budget includes a statement of how projects are to be financed together with a statement of the works or projects to be undertaken during a given time period. The following outline indicates the procedure to be used in preparing the capital budget.[4]

[3] The Finance Committee (authorized by the Board of Administrators of the Town of Fort McMurray) are currently preparing a capital program.

[4] General Plan of Coaldale, 1963. The Oldman River Regional Planning Commission, Alberta.

1. List the projects to be carried out and prepare a cost analysis for each project.
2. Arrange the list on a priority basis.
3. Determine the funds available by projecting and anticipating:
    (a) general revenues and expenditures;
    (b) borrowing power and existing debt;
    (c) revenue from grants and subsidies;
    (d) revenue from the projects undertaken.
4. Determine the effects of the capital expenditures on the annual operating expenses.
5. Reassess the priority list in relation to the funds available.
6. Finalize the capital works program.

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